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Psychotechnics in the 1920s: Holism and Personality in Early "Work Psychology"

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ABSTRACT

In order to clarify the incoherences concerning the supposed historical shift from elementalistic aptitude testing to a holistic appraisal of personality, the present research revolves around the question of how psychotechnicians assessed personality employing a holistic approach. In this study, I use the proceedings of the first three International Conferences of Psychotechnics (1920, 1921, 1922), characterizing their working and aims. Next, I offer a microanalysis of several talks and debates related to personality and holism. A couple of conference presentations promoted holistic physiological research; another, a gestalt approach. During the conferences, personality came also up as a topic in the confrontation with Taylorism. In the final part of the paper, I analyze the social dynamics of the meetings, inserting the talks and debates into the broader, professional and political context. I conclude that an interest in personality and a holistic approach was already part of the conference agenda right from the start (in 1920). The final, nuanced picture that we obtain portrays increasing interest, marked by a series of continuities and discontinuities.

Palabras clave
tests psicológicos,
orientación profesional,
selección profesional,
gestión de empresa,
psicología industrial

Psicotecnia en la década de 1920: Holismo y personalidad en la primera "psicología del trabajo"

RESUMEN

Para esclarecer las incoherencias relativas al supuesto cambio histórico de unas mediciones elementalistas de aptitud hacia una evaluación holística de la personalidad, la presente investigación indaga en la manera como los psicotécnicos trataron de evaluar la personalidad, usando un enfoque holístico. Para ello uso las actas de las tres primeras Conferencias Internacionales de Psicotécnica (1920, 1921, 1922). Comienzo por señalar el funcionamiento y los objetivos de los encuentros. A continuación, ofrezco un microanálisis de varias ponencias y debates relacionados con la personalidad y el holismo. Un par de presentaciones promovieron la investigación fisiológica holística, otra, un enfoque gestáltico. Además, durante el congreso, el tema de la personalidad surgió en un enfrentamiento con el taylorismo. En la parte final del trabajo, analizo la dinámica social de las reuniones, así como el contexto profesional y político de la época. Concluyo que el interés por la personalidad y el enfoque holístico formaba parte de las "Conferencias" desde sus inicios (en 1920). La imagen matizada que obtenemos muestra un interés creciente, marcado por una serie de continuidades y discontinuidades.

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Introduction

"Work psychology" or, as it is better known today, "industrial and organizational psychology," arose about a hundred years ago, starting out in Europe under the name of "psychotechnics"[1]. Over time, it is not only the name that has changed. As with professionals in other fields, practitioners of work psychology like to emphasize the range of innovations that have occurred in their area. But what exactly has changed?

Just after World War II, when the Jewish-Polish psychotechnician Franziska Baumgarten (1883-1970)[2] looked back on the past, she pointed out a fundamental methodological and thematic reorientation that had taken place more than a decade earlier. That shift consisted of "striving towards an appreciation of the whole personality"[3] (Baumgarten, 1947, p. 312). In other words, she singled out as the most striking historical change elementalistic aptitude testing of the 1920s had undergone over the following decade, the moment it gave way to a holistic approach, recognizing the individual as a "unique totality".

Since then, the historical shift described by Baumgarten has been widely acknowledged in historical research (see, for example, Killen, 2007; O'Neill, 2017; Rabinbach, 1990 and the literature review in first article in this monographic issue). But this holistic turn has more often been assumed than carefully examined. Moreover, the few scholars who have paid attention to the phenomenon have arrived at rather contradictory conclusions. For example, the psychologist–historians U. Geuter (1992), S. Schimmin and P. Van Strien (1998) linked the rise of holism (and "Ganzheit-talk") to the expansion of German National Socialist ideology. Such a diagnosis immediately raises the question of why Baumgarten—an outspoken anti-militarist and anti-Nazi—would have celebrated such an influence. Furthermore, the science and technology studies scholar M. Derksen (2014) downplays the supposed change as a clever rhetoric maneuver. After signaling the strong parallelism between Taylorism[4] and industrial psychology (examining, among other texts, the work of the psychologist Lillian Moller Gilbreth), he states: "(…) the human factor that industrial psychologists articulated, beginning with Münsterberg, was as mechanical as the core of scientific management (…)" (Derksen, 2014, p. 164). Thus, the diagnosis of the shift towards personality and holism mentioned by Baumgarten is more problematic than it may seem at first sight.

The confusion that exists appears to be asking for thorough historical research that could disentangle the continuities and discontinuities. Therefore, the main research question I address in the present work is: When and why did psychotechnicians become interested in a holistic approach and turn their attention towards personality? To provide answers to this question, I decided to work neither with the view of any pioneer nor a specific national setting[5]. Instead, I take as the basis for my research the reports on the first three International Conferences which took place in 1920[6], 1921 and 1922. The group of professionals of those conferences would later formally constitute a society, leading to the funding of the International Association of Applied Psychology (IAAP). Using this material, I started by searching for contributions and perspectives which, back at that time, were deemed relevant (trend setters), but which constitute a blind spot in the collective memory of the psychology of today.

My research is further stimulated by an idea which is current among historians of science, that social gatherings like congresses (conferences) are key sites of scientific politics. As Bigg, Reinisch, Somsen and Widmalm (2023) rightly pointed out: "Steven Shapin and others have stressed that face-to-face interaction is vital to the transfer of trusted knowledge, and that informal communication has historically played a larger role in science than modern sensibilities would expect" (p. 424). Yet, the case I'm dealing with is especially interesting, because psychotechnics was still at an incipient stage, which begs the question: How might a transfer of knowledge work in an area that was still emerging? Indeed, we may well ask whether there was any "trusted knowledge" to build on. In this regard, it is important to remember that psychotechnics was entangled with "applied psychology", IQ testing, eugenics and scientific management, which means that its scientificity and moral integrity were already being questioned right from the beginning (Mülberger, 2020). Last but not least, given the format of the early International Conferences of Psychotechnics, we should even ask: Was "knowledge transfer" actually the main function of these meetings?

Other than these broad questions, I consciously avoid starting with any specific conceptual framework that would already suggest certain answers or a global judgement (see my methodological critique in Mülberger, 2020). With the help of microhistory, I want to start by listening to the voices of some participants, to learn about their scientific and professional projects (more information on this method in Mülberger, 2025a, 2025b). Through a close reading of the primary sources and thorough contextualization, the present research connects with the point of view of certain figures from the past, observing their negotiations and clashes. By doing this, I combine conceptual (intellectual) history, working with definitions and revealing philosophical underpinnings, with a social approach that highlights the interactions that take place during the meetings, while inserting the ideas and the actions into their broader, professional and political context.

[1] In the first half of the twentieth century, the expression "psychotechnics" was used in several languages such as German, French, Spanish, Russian (in the English speaking countries it was less common). It was understood broadly, referring to areas of "applied psychology" (Münsterberg, 1912; see also the second article in this issue and Gundlach (1998a, 1998b, 1998c) with regard to the precise meaning and the change to the name of the meetings over time.

[2] By then she was a professor in Berne (Switzerland).

[3] She uses the expressions "Gesamtpersönlichkeit" and „einmalige Ganzheit". This and all the following citations from non-English texts have been translated by the author.

[4] It wasn´t long after Frederick Taylor's seminal publications (e.g. Taylor, 1911), that "scientific management" was ruling the workshops of big companies. Roughly summarized, the Taylor system represented an intervention based on an analysis of a given work process into its segments, a minute division of motion study. By observing and tabulating each movement, the most efficient and quick are selected.

[5] Both approaches have been commonly employed, see the first article in this special issue.

[6] The first meeting was held in 1920 but no proceedings were published. In this case I could only rely an extensive report written by Lahy in 1922 (the text is also reproduced in Gundlach, 1998c).

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For my purpose, the conference proceedings of the first three international congresses of psychotechnics constitute a highly valuable historical source. Bibliometric analysis of the material conducted by Carpintero and Herrero (2002) offers evidence of the shift Baumgarten was alluding to[7]. Moreover, the reports do not only contain most of the talks, but also a transcription of the discussions that followed, as well as information about working groups and policy decisions. All this information enables the historian to gain an international—although certainly a Eurocentric—view of what was at stake when holism and personality were discussed.

In the following section, I will start with a general overview and characterization of the first three meetings, presenting the participants' interactions and main concerns. In a second, highly selective reading of the material, I point in the following part my micro-lens to the instances when "personality" was being discussed. After a heated debate on Taylorism with which I will deal in a later part, I examine two holistic approaches, both aiming to assess personality. In the last part before the conclusions, I zoom out again, analyzing the social dynamics at the meetings and their link to the political setting. Finally, I conclude by offering a more nuanced picture of the supposed shift.

Trading aptitudes at the early "International Conferences of Psychotechnics"

The first meetings of the IAAP

At first sight, psychotechnical conferences look like friendly gatherings (see Figure 1). Gundlach (1998a, 1998b, 1998c) has conducted extensive research on the congresses (1920-1958), collecting and re-editing 13 proceedings. The original format of the first meetings was small, more similar to what we would call a workshop (that is why they were called "conference"). Yet soon they outgrew the original format, coming to include an increasing number of speakers (after several decades this would lead to a change of category, with the meetings becoming "congresses", see Gundlach, 1998a). The aim of the meetings was to testify the progress of a specific science, demanding peaceful collaboration among scientists from all over the world.

The first scholar proposing the celebration of an international congress for psychologists was Julian L. Ochorowicz[8] (1850 –1917). In 1881 he argued, in a truly progressive and positivist fashion, that in the past, when psychology was still based on metaphysics, it was mainly a project for an individual researcher. But now that it had become a science, its practitioners needed to cooperate on a broader scale. Because scientists were supposed to be dealing with "objective facts", the exchange of knowledge between them seemed free from any political interests. Such rhetoric encouraged psychologists and psychotechnicians to feel part of a universal scientific enterprise that was expected to advance not only their own field, but also their nations (see also Nicolas & Söderlund, 2005; Sabourin & Coope, 2014).

Imbued by such a spirit, in 1920, sixty psychotechnicians came together for the first time in Geneva, arriving from Belgium, France, Italy, the Netherlands, Greece, Switzerland, Spain and Bulgaria[9] (Figure 1) (Gundlach, 1998b). Edouard Claparède (1873–1940) was certainly the driving force behind the organization of the first international meeting[10] (Gundlach, 1998c). This professor from the Jean-Jacques Rousseau Institute was a true activist, eagerly extending his international network of researchers and students across continents. The following citation summarizes his aim: "[o]ur congresses are certainly an instrument (…), to establish a fraternal solidarity among psychologists around the world [; a solidarity] they wish would exist among the nations to which they belong" (Claparède, 1929, pr. 47 in Montoro, 1982, p. 27). After the First World War such an effort seemed more pressing than ever. Thus, the meeting was plurilingual[11] and participants acted as "delegates", representing their home country. This way, the meetings represented a "scientific League of Nations", parallel to the political League of Nations (founded in 1920)[12], an organization in which Claparède and other conference participants were actively involved.

The event was judged by the organizers to be a great success. The organization of the next meeting took place the following year (1921) in Barcelona. Now the guiding theme was broadened, embracing not only "professional guidance"[13] but also "the scientific organization of work" (Gundlach, 1998b, p. 464). A total of forty-eight presentations were given by researchers from twelve different countries (Bandrés & Bandrés, 2017; Sáiz et al., 1994). The third meeting took place in Milan with seventy delegates discussing topics such as the definition and measurement of aptitudes and Taylorism. After these three yearly meetings, a four-year-long break occurred. The "conferences" would be resumed in 1927 on the basis of one being held every year or every two years (Gundlach, 1998, vols. 1-13). In the last part of this paper, I will present the political setting in which the meetings took place.

Their proximity in time, and the overlap in content and membership of these first three meetings justifies treating them as representative for what could be called "the expansion stage of psychotechnics". At the time, the early International Conferences of Psychotechnics adopted two scientific–political roles for themselves: internally,

[7] They found that at first (1921-1934) "aptitude" and "intelligence" were most prominently employed. After a gap between 1934 and 1949 with no meetings, "personality" would rise into the ranks of the most frequent words appearing in the titles of the conference papers, with the other two terms dropping out (see Carpintero & Herrero, 2002, Table 8, p. 49). Yet, the rough grouping doesn't allow a clear characterization of the shift and its timing.

[8] Also known as Julien Ochorowitz.

[9] With no representatives from either Germany or the United States. Gundlach explains that the Germans could not afford to travel to Geneva because of inflation.

[10] Carpintero (2002, p. 41) presents Claparède as "the soul and inspiration" of the meetings but the idea was also due to Pierre Bovet and Théodore Flournoy (see Carpintero, 2020 and Gundlach, 1998c for more details). Additionally, Claparède had been involved, as general secretary, in the organization of the international congress of psychology in 1909 (see Gundlach, 1998b, p. 463).

[11] The proceedings written in French, English, Italian, German and Catalan. They reflect a respect for the local language where the venue was taking place and an effort towards translation with French as vehicle for oral communication).

[12] The main organization of the League ceased operations in 1946 when many of its components were relocated into the newly created "United Nations" (UN).

[13] Also called "professional orientation", see Gundlach (1998c).

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Figure 1. *Participants at the first psychotechnical meeting in 1920 in Geneva*

Source: https://phototheque.unige.ch/fpse/unige:18702 . Image reproduced with the permission of the photo archive of the University of Geneva (FPSE).

the formation of a new scientific and professional area; externally, to contribute to the improvement of society (facilitating a better match between workers and jobs). In what follows, I will present the problems encountered in pursuing the first role and, later, critically assess the aspirations and the outcomes related to the second.

What is "professional aptitude" and how can we measure it?

The reports of the early meetings offer evidence that the objective of the conferences was to join forces to inject life into a new scientific and professional area. The object of study would be a candidate's or a worker's "professional aptitudes". But just what are these? In an attempt to define them, during the first meeting, Claparède declared that even quite young subjects exhibit "natural professional dispositions" towards diverse professions (see Lahy 1922a, p. 75). Building on such a view, a year later, the Catalan engineer and psychotechnician Ruiz Castellá (1922) explained that "professional capacity" depended on "natural" (inherited) conditions (p. 55). Yet, a mental or physical effort could modulate the outcome. Finally, in the third meeting, the conference secretary, "franc-masón" psychologist Jean-Maurice Lahy[14] (1872-1943), also followed this line of reasoning, defining aptitude as "a natural disposition to performing work properly" (Lahy, 1923, p. 32).

These vague definitions seem to have been all that was needed. Driven by the aspiration to "achieve the best scientific and practical output" (Lahy & Ferrari, 1922, p. 6), the main concern of the psychotechnicians was to search for tests to diagnose a series of characteristics that could explain why, within the same professional setting, one person would develop into a highly skilled and productive worker and another would not. Work accidents and low productivity or bad quality output were interpreted as signs of a mismatch between the person and the professional tasks. Thus, the organizers of the first international meetings aimed at reaching agreement on: a) how to match jobs with workers' aptitudes and b) determining the "right" (i.e. effective and scientific) diagnostic method to assess these capacities.

Yet, the starting point was far from anything like a consensus. In the talks and discussions, the speakers convey their pioneering

[14] Listed in the proceedings as a member of the laboratory of experimental psychology at the Sorbonne and the Ligue for mental hygiene.

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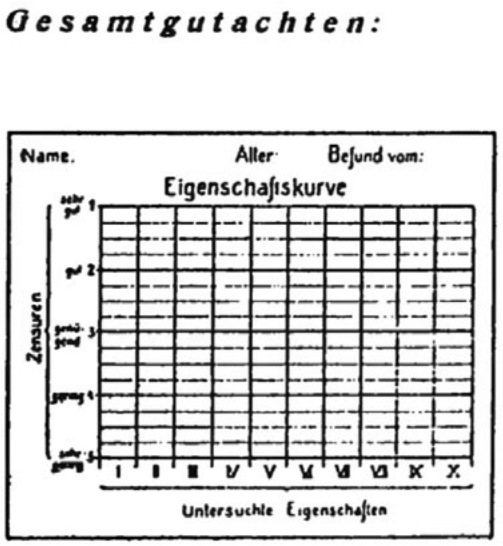
roles, with feelings of stepping ill-prepared into a rather "murky" (unknown) area. There was certainly very little by way of standard knowledge, professional and educational regulations or theoretical common ground. Although Münsterberg's work was valued and sometimes cited, the proceedings contain nothing recognizable as a mainstream view or a paradigm. On the contrary, the proceedings exhibit an odd collection of idiosyncratic and tentative classifications of physiological and intellectual characteristics, and the various methods (and forms) used to assess them.

Here are three examples of this eclectic mix, extracted from the proceeding of the second meeting in 1921 in Barcelona. The testing methods were often divided into categories, depending on which aptitude they were supposed to measure. A relatively simple division was employed by the inspector of primary education (in Saint Gilles, Belgium), Raymond Buyse, distinguishing between "physical", "psychophysical" and "mental" tests (see Buyse, 1922, p. 156). Others, such as the psychologist Nicolas Braunshausen (1874-1956), who taught experimental psychology at a "Lycée", presented the extensive testing conducted at his psychotechnical institute in Luxemburg, where seventeen capacities and characteristics such as senses, muscular strength, memory, reaction time, different types of attention, speed, precision and intelligence were measured and matched with a job, without any overall grouping or categorization (Braunshausen, 1922, p. 311). Finally, the German psychologist Walt(h)er Moede[15] worked with his psychotechnical assessment sheet containing four categories: a) sensory abilities, b) attention and will, c) "intellectual capacities" (such as memory and the ability to form combinations) and d) "technical-constructive capacities" (such as space perception and technical understanding). After the assessment, the different measurements were introduced into a table (see Figure 2) from where the experienced psychotechnician could then obtain the "aptitude curve of the overall assessment"[16] and see easily whether he was dealing with a skillful worker.

In sum, although there was no clear definition of what was meant by "aptitude", nor an agreement on how to measure it, the different proposals juggled with lists of inherited and acquired physical and psychological characteristics and capacities that were deemed measurable with the help of anatomical, physiological (psychophysiological) and psychological recording devises (brass instruments), and mental tests. These examples are sufficient to get a sense of the considerable differences between the competing lists and categorizations. Additionally, and more importantly, we can see in Moede's "aptitude curve" an attempt to unify elementalistic aptitudes by visually relating them to one another. It can be interpreted as a visual device registering (or "inscribing") the "working profile" of a person. In this context, Moede talks about "the efficiency" (*Tüchtigkeit*) of their "personal characteristics". In the following sections we will see other "personal curves". But first, let us witness part of a discussion about the right way to group and unify psychological aptitudes.

Figure 2. *Moede's "overall aptitude assessment" (1922, p. 83)**



* Explanation and translation: The sheet asks in the first line for the candidate's name, age and the date. The table records the scores the testee has obtained in ten different tests, relating the person's aptitudes (literally "personal characteristics", see the horizontal line) to the scores or "grades" marked on the vertical coordinate. The latter is divided into five levels starting with "very low" and ending with "very good" (at the top), with "low", "sufficient" and "good" in between.

"Personality" among professional frictions

Intelligence or personality? A discussion

We have seen that measuring professional aptitudes constituted the main concern of the early meetings. In 1922, Lahy (1923) explained to his colleagues that anatomical and physiological measurement methods had been available for a long time; the psychological, in contrast, had only recently become available. Going along with the latest inventions, he proposed "intelligence" as an overarching concept and intelligence testing as the most convenient way to measure psychological aptitudes. After contrasting Thorndike's elementalistic approach with Spearman's "g factor theory", Lahy concluded that the latter, based on the correlation between different functions, "is, therefore, very exact" (Lahy, 1923, p. 33)[17].

Although Spearman's "g factor theory" was widely used for practical assessment of intelligence (Walrath et al., 2019), Lahy´s

[15] The good news of Moede's appointment as professor at the Technical College in Charlottenburg in Berlin was officially announced during the conference in 1921 in Barcelona, right before he gave his talk (in the list of members he would appear as director of the psychotechnical laboratory). Moede's talk in German was extensive (29 pages long and with a lot of images!). Strangely, the proceedings do not contain any discussion. We can only wonder if this was due to a lack of time or to the language barrier (Lipmann had similar communication problems, but he received some help from Mira, who translated his talk into French).

[16] The German expression used by Moede is "Eigenschaftskurve des Gesamtgutachten".

[17] Lahy's proposal of 1922 was in line with Burt's from a year earlier; more on Burt in section on "Psychotechnical politics in the early 1920s" below.

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colleagues were far from convinced that "general intelligence" could serve as an umbrella term for psychological aptitudes. During a lively discussion, several participants rejected this idea. One was Hugo Heinis, working at the "cabinet d'Orientation Expérimentale" of the Jean Jacques Roussau Institute, who stated forcefully: "There does not exist one type of intelligence, but multiple [types]. In the more than one thousand experiments I conducted, I did not find even **one** subject that was good at everything" (1923, p. 34; emphasis added). After several attacks and within an ambience of increasing confusion, Lahy (1923) looked for support from an authoritative voice, inviting his colleague from the Psychotechnical Institute in Berlin, Otto Lipmann (1880-1933), to step in.

Lipmann´s answer, however, was not exactly what Lahy had hoped for[18]. Lipmann (1923a) declared, succinctly, that "a general intelligence does not exist" (p. 37). A person who understands intellectual matters well and easily is not necessarily similarly intelligent when solving technical problems. With regard to how to measure the different types of intelligence, Lipmann (1923a) first referred to the Binet-Simon or the American Army test as being helpful; nevertheless, the key to adequate assessment of a job candidate was not a test score. He prioritized the observation of a person's reactions, while resolving the test. Only through observation, he stated, can we obtain "a better idea about his personality" (p. 38).

However, Lipmann's exposé couldn't silence the discordant voices. The discussion kept Claparède wondering about the diagnostic use of something like "general intelligence", while another colleague, Petitpierre[19] (1923), who was the director of a professional school in Lausanne, proposed a classification of professions into three categories depending whether they required manual or intellectual aptitudes, or both. After this pragmatic and not very original proposal, the session was adjourned.

From the previous discussion, we can see how the participants tried to find an overarching concept for the "natural dispositions" that were considered relevant for the diagnosis of professional aptitude. (I will return to this towards the end of the article.) Yet, for now, let us note that most conference participants seemed rather unwilling to subsume the variety of human characteristics under a common factor (g) on the basis of intelligence testing and statistical calculations. In what follows, I will show that Lipmann's (1923a) alternative proposal to observe a candidate's reactions in order to get to know their personality appeared to them to be a more promising avenue.

"Personality" enters the scene

The term "personality" appears in all the conference proceedings, except in Lahy´s short overview of the first meeting (1922 in Gundlach, 1998). Its frequency increased from rather occasional use during the first meetings (5 in 1921, 2 in 1922), to a certain prominence from the fourth meeting onwards (53 in 1927; see Gundlach, 1998, vols. 1-4). These numbers show a growing interest in the topic, already before the 1930s. The first uses of the expression occurred in French, English and German. A closer look at the first instances when the expression was used (starting with the French examples) will help us understand what was meant by it and why it seemed attractive.

In the talks in French, one mention, related to schooling, occurred when the director of the Institute for Professional Guidance (in Barcelona), Josep Ruiz Castellà, asked teachers to observe the "personality characteristics of their [school-children]" (1922, p. 54)[20]. Lahy, who already in an earlier publication (Lahy, 1910, p. 581) had argued for the relevance of "human personality" as a motor for historical change, employed the term during the first conference meetings. As we saw above, at that time he was looking for a concept to group together psychological aptitudes. While at the meeting in 1922, he proposed "general intelligence" (i.e. Spearman's "g factor theory"), the year before he had defined professional guidance as consisting of collecting information with regard to the candidate's "personality" (Lahy, 1922, p. 186[21]).

Let us remember that within the French tradition, "personality" (*personnalité*) had already become prominent, connected to evolutionist thinking and a clinical perspective. In his influential psychopathological study on the "diseases of personality", Ribot had defined personality as "the highest form of psychic individuality" (Ribot, 1885/1891, p. 1), distinguishing an organic, an affective and an intellectual level. However, Lahy does not refer to either levels or diseases of personality, but he emphasizes a functional (evolutionist) understanding, explaining: "Every profession requires a certain number of psychical qualities, the value of which determines for each subject the degree of professional adaptation" (Lahy, 1922, p. 380).

Let us now look at other instances, during the first International Conferences of Psychotechnics, when "personality" appeared in English. The following episodes will lead us towards a zone of professional friction between psychologists and engineers, and reveal the permeability of the psychotechnics meetings with regard to the political debates of the time.

"Personality" as protective shield against Taylorism

Within the agitated European industrial landscape of the early 20th century, Taylorism was certainly one of the most politically charged topics discussed at the meetings. While the utility of "scientific management" had quickly gained ground, it also triggered critique and resistance from workers and unions. The proceedings echo the resulting conflict. Rabinbach (1990) reports Lahy's sound rejection of Taylorism in 1916; but Lahy was not alone in this. At the meetings

[18] Yet Lipmann had commented already a year earlier: "It is impossible to differentiate students by their 'level of intelligence', because there is not one intelligence, but a 'theoretical' and a 'practical' intelligence" (Lipmann, 1922, p. 53).

[19] The proceeding indicate J. Petitpierre but, considering the archives, it might be Alexis Petitpierre-Allisson, dit « Xi » (1887-1958), who is presented as "directeur de l'Ecole des métiers à Lausanne" https://archivesdelavieordinaire.ch/fonds_archives/detail/98

[20] Probably, his understanding of the concept stemmed from French texts.

[21] See also Lahy and Fessard (1922) talking about determining, with the help of tests, the "psychical personality of each subject" (*personnalité psychique*) (p. 380). Furthermore, Lahy includes the term "personality" as a key concept when defining the goal of his profession, explaining that psychotechnics focuses on generating knowledge about an individual's personality (1922c, p. 1; see also Turbiaux, 2006, p. 223).

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in 1921 and 1922, several delegates evoked the union criticism (see Tallada, 1922 and even stronger: Bauer, 1923). In stark contrast to these talks stands the work by the American couple Frank B. Gilbreth and Lillian M. Gilbreth, whose work was inspired by Taylor's system[22]. They didn't attend the meeting in 1921 (in Barcelona) but submitted a text to be published in the proceedings (1922[23]).

In their polemic and propagandistic text "The place of the psychologist in industry" (Gilbreth & Gilbreth, 1922), the couple styled themselves as "consulting engineers" claiming that, to that day, psychology had basically failed[24]. The reason resided in the fact that psychological laboratory testing might show what a person **can** do (i.e., their aptitudes), but because no incentives were used, they cannot predict what a worker really **will** do (Gilbreth & Gilbreth, 1922). Thus, testing needs to be adapted to and conducted in the workshop. And, in order to be prepared for the challenges of entering factories, the psychotechnician first needs to become familiarized with the Gilbreths' motion studies.

What did their motion studies offer? The couple proudly presented their "new-born" "therbligs"[25]: sixteen elemental motions used to optimize manual labor by eliminating unneeded movements (Gilbreth & Gilbreth, 1922). The main idea behind this was that "divisions (…) illustrate (…) that careful examination of many activities, as they appear when divided into appropriate small parts, show many and unexpected likenesses. This makes possible the transference of skill from all kind of works to the particular work under observation and to be standardized" (Gilbreth & Gilbreth, 1922, p. 360).

In summary, we can see that among the variety of elementalistic approaches that were discussed during the psychotecnical meetings, the Gilbreths' text stood out for two reasons: their harsh attack on psychology and because they developed a behavioristic kind of elementalism. At the following conference in 1922 in Milan, the British physician and psychologist, Charles S. Myers (1873-1946)[26] appeared visibly disturbed by the attack and the arrogance that transpired in the Gilbreths' text. He was keen on demarcating his own role as an "industrial psychologist" from the work of the American "efficiency engineers" (Myers, 1923, p. 51). Myers was well known among his colleagues for his friendly attitude and his tendency to always try to find middle ground between two extremes (Bunn, 2025). Yet, at this meeting, he certainly exhibited his most belligerent side.

His counterattack echoed a well-known criticism, accusing the efficiency engineers of forcing all workers into "a common mold". Any "adequately trained psychologist" knows that "there is no 'One Best Way'" (Myers, 1923, p. 52). As a consequence, scientific management was harmful, because it discouraged all initiative on the part of the worker. Moreover, it simply doesn't work, Myers claimed, because "no two individuals can be trained to precisely the same features of rhythm and movement" (Myers, 1923, p. 52). "The psychological and physiological differences between individual workers" need to be taken into account, because they imply that each person has their own style that is "best suited to his mental and physical constitution" (Myers, 1923, p. 52). Therefore, the prescriptions of "therbligs", as with any other rigid rule, are of no use.

Furthermore, Myers clarifies that whenever a physiological or psychological test is employed by someone who is not properly trained, the results will be "in the highest degree untrustworthy" (Myers, 1923, p. 55); because a score "can never solely or mechanically determine" an individual's aptitudes[27]. When assessing the result of a vocational test, Myers stated: "One must always take into consideration not only what a person does at[28] a test under given conditions, but also how he carries out that test, and not only the extent and manner of his performance in that particular test, but also **his entire personality**" (Myers, 1923, p. 55, emphasis added).

Again, we find a psychotechnician expressing his interest in studying holistically, the "entire personality" of the testees. Myers, who shortly before had set up the National Institute for Industrial Psychology (NIIP), proudly informed his colleagues about the successful assessment of chocolate packers. He claimed that his approach was "diametrically opposed to Taylor's idea of Scientific Management" (Myers, 1923, p. 52) because his team collaborated with the Trade Unions, considering also ethical and economic concerns when making an assessment. Still, in "Industrial Psychology" (1929), he argued against the Gilbreths' claim that the aim was to increase the worker's (and the company's) output. Instead, the aim was "to give the worker greater ease at his work" (p. 14). Thus, he opted for stimulating workers' interest[29] and improving the "general mental 'atmosphere'" (p. 14) on the shopfloor, because "[n]either fear nor a bonus provides a lasting stimulus" (p. 11).

His demarcation rhetoric against scientific management was in line with his defense of the psychological profession in general (Bunn, 2025) and, more specifically, with his BBC radio talks about "the human side in industry" (Bunn, 2025, p. 65) and his philosophical stance he presented later in his Hobhouse lecture (Myers, 1932). There, he distinguished living matter from the lifeless universe, because only the former exhibits inherent purposiveness and self-direction. Rejecting both materialism and idealism, he adopted

[22] The Gilbreths distinguished their work from Taylor's (see Gilbreth & Gilbreth, 1922). Yet, with regard to the general outline, the difference can be considered minor (see also Derksen, 2014).

[23] The Gilbreths' text was not the only material that was added to the proceedings afterwards. In this way, the volume was able fulfil the purpose of the meetings which was to inform about the way psychotechnics was practiced in different countries, even when no delegate had been able to take part.

[24] More specifically, they argued that psychologists had been unable to live up to their promise because they "have approached industrial problems with an assurance which they were unable to realize in actual practice" (Gilbreth & Gilbreth, 1922, p. 354)

[25] They arrived at this curious name for their motion unit by writing their name backwards (changing only the position of the "h").

[26] Myers became involved in WWI as a consultant psychologist for the British army, which was when he started to use the term "shell shock".

[27] To underline his point, he added: "A test is not an instrument comparable to a voltmeter which only needs to be mechanically brought into contact with a metallic substance to provide an accurate measurement" (p. 55). Yet, this critique wouldn't hold for Lillian who was a trained psychologist.

[28] The use of "at" instead of "in" in this sentence might sound strange to today's reader. It shows how not only the test themselves were yet to be standardized, but also the language referring to working with tests was still being incorporated into the (in this case English) language.

[29] See also Drever (1929) in "Industrial Psychology" on the "human factor" dealing with interests, impulses, sentiments and passions. Drever's psychotechnical work was heavily influenced by W. McDougall's work.

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a holistic stance assuming "the total directive activity of (…) an organism consists not only of the directive activity of its several parts, but also of the unitary directive activity of the self which is more than the sum of the directive activities of the several parts of the 'individual' organism" (Myers, 1932, p. 16). Although, there is no further explanation of what this "self" represents, we can recognize an effort to explain, in biological and holistic terms, the importance of what he calls "the directive activity", defined as "the highest unitary activity of the nervous system" (Myers, 1932, p. 16). Accordingly, his psychotechnical interventions (in which he employed testing and observation), put much emphasis on a worker's personal interests, making sure to awaken and involve their capacity of "self-direction" within the industrial rationalization process (see Myers, 1929 and Welch & Myers, 1932).

This examination and contextualization of Myers' protest against the Gilbreths allows me to draw three conclusions. First, some European psychotechnicians, such as Myers, were keen on differentiating themselves from supporters of "scientific management". While the latter were being criticized for representing the interests of management, the former were situating themselves closer to the workers, arguing that the intervention of an industrial psychologist would help them in their daily work. Second, psychotechnicians were less concerned with analyzing workers' movements on the shopfloor and more with aptitude testing. And, third, Myers presented holistic personality assessment as the specific field of professional intervention by the industrial psychologist. Arriving at this point, we might ask: In practice, how could personality be assessed? At the meetings, two options were put on the table the first of which was again based on body movements.

Holistic approaches towards personality

The "personal curve" of the working body

In his inaugural address at the meeting in Milan (in 1922), the Italian physiologist-physician Mariano Luigi Patrizi (1866 - 1935)[30] identified a "tacit agreement" (*tacito accordo*) among the conference participants as to the goal of psychotechnics consisting of the examination of "the individual as a whole and not through its segments, not through a group of functions (…)" (Patrizi, 1923, p. 26). This could be achieved, he promised, through Angelo Mosso's (1846-1910) "rigorous analysis of movement" that "proved that human beings do not spend and exhaust their muscular contractile material in the same way; [therefore] a personal curve[31] was designed" (Patrizi, 1923, p. 24).

Mosso still figures prominently within the history of physiology and work science (see, e.g., Rabinbach, 1990), yet his relation to the history of psychotechnics is less clear. His work represents the "chronophysiological" tradition that goes back to Helmholtz' work in the 1840s and 1850s, when he measured the nerve impulse in an isolated frog muscle (Canales, 2001; Schmidgen 2014). Soon, new instruments were designed to register muscular movements of the living human body. One of these constructions was Marey's myographion which was especially handy, because it enabled the muscle to produce what Helmholtz and Du Bois-Reymond called, "autographical drawings" (*autographische Zeichnungen*) (Schmidgen, 2014, p. 388). Based on the curves obtained in such laboratory experiments, Helmholtz claimed that he was able to recognize, by only looking at their form (gestalt) (…) "whether the muscle (…) had been working uniformly" (Helmholtz, 1852, cit. in Schmidgen, 2014, pp. 405-406) [32].

This relationship between muscle strength and work or, if we move to a higher level, between physiology and psychotechnics, should not come as a surprise if we remember that Helmholtz coined the term "labor power" (*Arbeitskraft*); a concept soon followed by the "curve of fatigue" (Mosso, 1891) and the "work curve" (Kraepelin, 1902) (Paterson, 2021, Chapter 5). The result of all these conceptual and technical inventions was that human work (and its counterpart, tiredness[33]) became "a measurable problem that could be rendered through graphical means into curves" (Schmidgen, 2014, p. 204). Moreover, the German materialist perspective turned work into a physio-chemical problem and, thereby, the difference between mental and physical disappeared.

Within this tradition, Mosso's work gained attention because it represented a turn towards a holistic and personalistic approach[34]. With the help of graphical devices, such as the ergograph (see Figure 3), it was possible to register (or inscribe) a person's fatigue, reaction time and oscillation in attention levels. The outcome was a "physiognomic" study (Patrizi, 1923), showing graphically the specific way each person works and the way their brain becomes tired (see Figure 4 as an example). Mosso (1891) described this as follows: "The ergograph thus gives us a record of one of the most intimate and most characteristic features of our individuality—the manner in which we fatigue and this feature remains constant" (p. 92).

The talks given by the young Emili Mira y López (1896-1964) were in line with such a holistic physiological approach. At the time, Mira was working at the Institute for professional guidance in Barcelona (under the direction of Ruiz Castellà, mentioned earlier) (Mülberger & Jacó, 2007). In 1921 (in Milan) Mira presented the results of his PhD research on "the somatic correlations of mental work" (Mira, 1922; for more information see also García et al., 1993), showing that mental activity was accompanied by an increase of blood pressure in some brain vessels[35]. The idea behind these experiments was precisely that any kind of activity or work, even if it were only "mental", would have a detectable effect (producing a change) on the development (in form of a curve) of some physiological registers. Historians have

[30] Director of the Experimental Institute of Physiology of Modena University.

[31] Interestingly, the French translation in the proceedings says "personal profile" instead of "personal curve".

[32] The engraving would soon be facilitated by adding a kymograph to an experimental setting.

[33] Tiredness as independent from will (volition).

[34] Helmholtz compared muscular work to a steam engine. Accordingly, he emphasized that it functions the same way in different human beings. In this regard, Mosso's position was different; the way he uses the "personal curve" puts him closer to the work of the astronomers' "personal equation" (Canales, 2001).

[35] Mira himself called his approach "bio-chemical and functional". Additionally, at that time, Mira was also interested in J.B. Watson's research and his project of reducing thinking activity to laryngeal movements (Mülberger, 2014).

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Figure 3 (left). An image of Mosso's ergograph Figure 4 (right). A typical curve obtained with the help of this instrument***

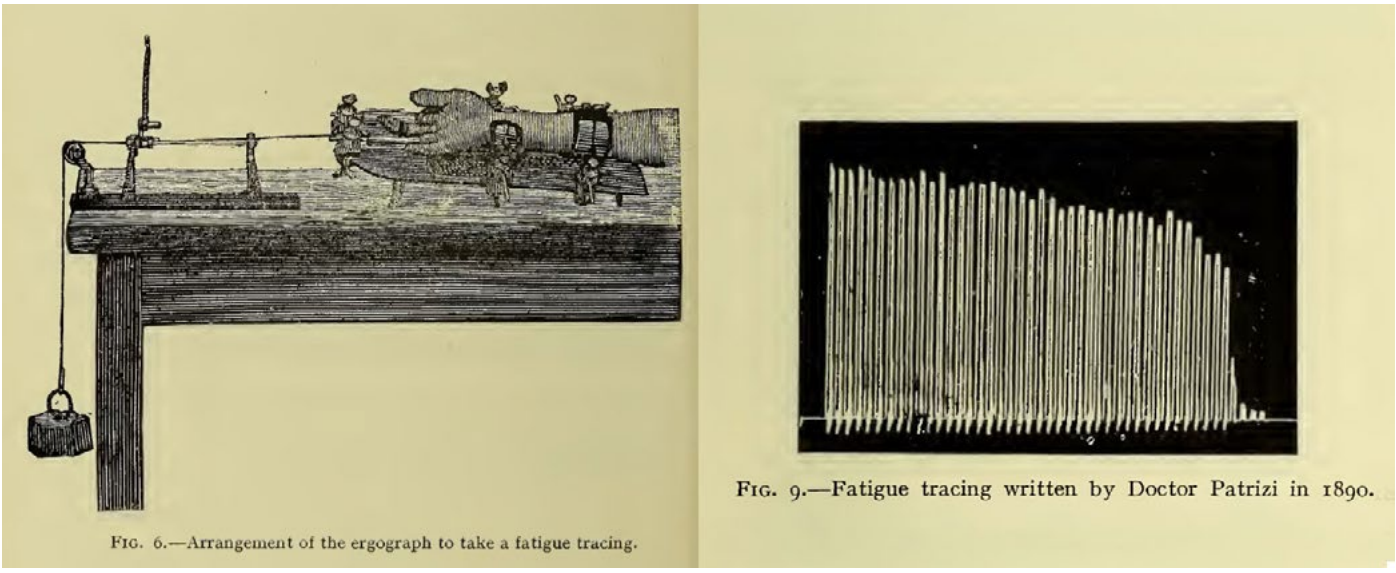

Fig. 6.—Arrangement of the ergograph to take a fatigue tracing.

Fig. 9.—Fatigue tracing written by Doctor Patrizi in 1890.

*Copied from Mosso, 1891, p. 88

**Copied from Mosso, 1891, p. 93

linked Mira's positivist and holist approach to Ramón Turró´s "Catalan biological school" which was also influenced by Mosso's work, and, more specifically, to August Pi-Sunyer´s laboratory where the organic "functional unit" was a central concept and concern (Miralles, 1980). Years later, Mira would still maintain this holistic view stating: "The simplest reaction or (…) act, demands (…) the intervention of the whole being" (Mira cit. in García et al., 1993, p. 143).

But how could such an approach be put to use for psychotechnics? Mira also presented the way professional orientation worked at the Barcelonian Institute (see Lahy's comment on Mira's talk in 1920 in Lahy, 1922; more details of his projects and psychotechnical praxis at that time can be found in Carpintero, 2023). There, the personal curves of the physiological registers and a monotony test were employed to assess a candidate's "temperament". A person's temperament was supposed to be related to their personality, the former referring to an inherited bodily constitution that "rests on a purely physiological basis" (Mira, 1920 cited in Lahy, 1922a, p. 67). By analyzing its physiological basis, Mira and his colleagues could diagnose whether a candidate was a normal, choleric, depressive or phlegmatic "type" of person (Mira, 1920 in Lahy, 1922a; Mira, 1928). Following such types, people were expected to be more or less prepared for a continuously changing job environment or, in contrast, better at facing monotony[36].

We can see that not only Myers', but also Mira's (1920/21) and Patrizi´s (1922) talks emphasized the need to appraise an individual's "organic unity". Yet Myers was keener on mobilizing workers' "directive activity", while Mira and Patrizi were interested in differentiating "temperamental (personality) types", arguing that with the help of a continuous registering of bodily (biological) processes it is possible to measure the particular way a person (organism) confronts work. It is easy to see the connection between their holistic and materialist position and their medical training (focused on the workings of the body).

Moreover, in contrast to Moede's "overall assessment" (see the first section of this paper), in which the measurement of separate psychological functions (or characteristics) was expected to offer independent scores, in the case of Mira and Patrizi's curve(s), shape(s) were interpreted as expressing the same, underlying unit. In this case, the outcomes of the registers were viewed as "autographical" (Patrizi, 1923, p. 58), in other words, as revealing the particular "signature" inscribed by the body. What is striking is that, following their approach, it did not matter whether a person's dispositions or aptitudes were measured using mental testing or physiological measurement. Both types of measurements were supposed to be capturing the expression of the same organism's specificity (i.e. "personality"). As a result, we can see in the meetings how practitioners such as Mira promoted a strange ("eclectic"[37]) combination of all kinds of testing, observation and physiological measurements.

Personalistic gestalt assessment in the work place

Yet another instance when "personality" (*Persönlichkeit*) appeared in a German text in the proceedings leads us down a completely different path. In Lipmann's talk (1922), the expression was only marginal, related to a leadership role and schooling. Nevertheless,

[36] The temperament, together with intelligence testing, was supposed to provide insight with regard to the "types" to which the subject seemed to belong, captured with the help of a "personal quotient" (Mira, 1920 in Lahy, 1922a, p. 68). Temperament was also related to "character", but the latter would only become more important in Mira's work in the following years (see also the fourth article, Vermeij's contribution in this issue). Years later, Mira would even develop his own personality test for which he is known today (the "PMK").

[37] The expression was used by Mira and Myers to refer to their pragmatic choices of methodological tools and disinterest in any conceptual (theoretical) consistency.

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while not directly employing the term for his psychotechnical intervention, in the assessments conducted by him at the Institute for Applied Psychology in Berlin (Lipmann, 1922, 1923b), workers' personal experiences were situated at the center. The following passages I cite from his talks in 1921 (Barcelona) and 1922 (Milan), illustrate the strong alignment of Lipmann's psychotechnical praxis with the Gestalt School's holistic and phenomenological view; it was the psychology promoted by the Berlin gestaltists M. Wertheimer, K. Koffka and W. Köhler that resonated with the holistic thought that became popular in Germany during the Weimar Republic (during the interwar years) (Ash, 1982).

Lipmann observed that "[o]ften it is the specificity of the interaction" of psychological functions such as attention and memory, "that is much more characteristic for a work[-process] than a (…) singular function" (Lipmann, 1923b, p. 41). Thereby, they form a "a psychical gestalt" that can never be exhaustively represented through psychotechnical analysis (Lipmann, 1923b, p. 41). Based on this view, Lipmann developed a questionnaire of 150 questions with the goal of helping the psychotechnician to "empathize (*einzufühlen*) with the described work in such a way that he can internally reconstruct the peculiarity of the interaction of the individual factors" (Lipmann, 1922, p. 41)[38]. Thus, Lipmann invited his colleagues to select the questions that fit best with their case. Here are a few examples of his list: Is this work focused on human beings or things or abstractions? Does the work process consist of repetitive tasks or several different work processes? Is it more about speed or rigorousness? Can the work process be mechanized or does it require the worker's constant, conscious attention? The international impact of this list of questions (Lipmann, 1918) has been appreciated by biographers such as Von Rosenstiel (1985) and Plavinskaya (2013).

Whereas Lipmann check later became well-known for his work with statistics, in the talks he gave at the early international conferences of psychotechnics, his assessment did not put workers into fixed human-type categories. He was seeking a dialogue with the worker to learn about the phenomenology of work, i.e. work as a totality (*Arbeit als Ganzes*, p. 41), experienced by the worker. His approach seems connected not only to the work of the Berlin School in general,[39] but especially to Köhler's ape studies (1917). Köhler observed "the work" done by the animals to "solve" the mental puzzle of a situation in which the goal (i.e. food) was not directly to be reached, but indirectly (through a detour). Similarly, Lipmann framed the work process as a goal-directed, creative process (*Gestaltungsvorgang*), in which workers should (whenever possible) be able to select freely how they want to achieve the goal (i.e. the order of steps and tools). Additionally, Lipmann´s understanding resonated to a certain extent with Stern's personalistic philosophy (Stern, 1917, 1918). Following his idea of "unitas multiplex", Stern considered a "person" to be "an entity that despite the multiplicity of parts, forms a real, unique and intrinsically valuable unity; and despite the multiplicity of the part functions, achieves a unifying goal striving for self-activation" (p. 9, see also Lamiell, p. 129).

Lipmann's talk was, again, followed by an animated discussion with some colleagues questioning the worth of his questionnaire and the need for such a "gestaltist observation". Others seemed to acknowledge the convenience of such a procedure, at least in addition to testing (again, we should note here a rather pragmatic combination of methods and approaches). In this context, the question about who is the right expert to conduct such an observation surfaced. This discussion will be part of the next section.

Psychotechnical politics in the early 1920s

Contrary to what I wrote at the beginning when presenting the International Conferences of Psychotechnics as a meeting of "psychotechnicians", it should be clear by now that, at the time, there were no "psychotechnicians", at least not in the sense of specifically trained professionals. The early meetings (1920-1922) congregated physiologists, psychologists, (school) physicians, politicians, social workers, work scientists, and pedagogues interested in psychotechnics. Potentially, anyone could style themselves as a psychotechnician. Due to the lack of training programs, the meetings acquired a didactical role with a few participants expressing their eagerness to learn about psychology and psychotechnics (see E. Gauthier, 1922). Thus, I can now respond to one of the initial questions about "knowledge transfer", which was certainly part of the game in both a horizontal (exchange of knowledge among peers working at different institutes and locations) and a vertical (diffusion of knowledge to a lay audience) sense.

Despite the variety of participants, a couple of dominant voices can be recognized such as Claparède (Geneva), Lahy (Paris), Lipmann (Berlin), Mira (Barcelona), Moede (Berlin), and Myers (London). The hierarchy among the speakers seems to relate to their experimental (psychological and physiological) training, as well as the social status of their respective institutions. In some cases (namely, Myers, Lipmann and Moede) the First World War had lured them towards "applied psychology[40]" (Bunn, 2025; Geuter, 1992; Gundlach, 1996; von Hohenthal, 2023)[41]. Apart from Claparède, some other pedagogues, paedologist and teachers were also involved in the meetings (e.g. Christiaens and Decroly were part of the "comité directif"), but the rise of psychological testing and the increasing importance of personnel selection would soon limit their roles in the psychotechnical movement.

However, let us recall that the initiative of the International Conferences of Psychotechnics had started with a pedagogue's wish for peace and friendship. Accordingly, the reader can recognize in the proceedings multiple signs of **friendship and mutual respect**[42]. Also,

[38] In this context he also talks about *Berufsbilder, Berufs-Psychogramme and Berufs-Systematiken*.

[39] The gestaltists tried to combine a biological (naturalist) stance with phenomenology. Epstein and Hatfield (1994) defined them as phenomenal realists and programmatic reductionists, assuming that "the nature of the physical should be reconceived to include direct counterparts of phenomenal properties" (p. 167).

[40] See the first article in this special issue. Here I'm referring to Lipmann, Moede and Myers.

[41] Whether the motive of their voluntarism was a patriotic sense of duty or professional opportunism is difficult to say (see Geuter, 1992, who argues for the latter).

[42] For example, one colleague was helping another with a translation of the other's talk; and a warm message (telegram) was sent to a sick colleague to cheer him up.

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we can see that the discussions were relatively open. But this is only part of the story because the reports also reflect political struggles as well as national and professional rivalries. I recognize three interconnected layers that were acting like eccentric forces within the already scattered and heterogenic community.

A first source of tensions stems from the **delegates' double role as local (national) delegates within an international mission**[43]. On the one hand, they represented the specific (idiosyncratic) way professional orientation was practiced in their respective local institutions, be that a psychotechnical office, an institute for professional guidance, an industrial training school or a physiological laboratory. In this sense, the meetings seemed like an exhibition, with each speaker or group promoting their "scientific culture": their list of aptitudes (see first part of this article), a selection of tests and specific assessment forms (*fiches*).

On top of this, several talks stood out due to their nationalistic tone. One example is the talk given by British psychologist Cyril Burt, who, in the second meeting (in 1921), celebrated the identification and measurement of general intelligence as "the special contribution of recent English work to the psychology of vocational guidance" (Burt, 1922, p. 330). We already saw Lahy's support for Spearman's "g factor theory" and we can only speculate to what extent this interest was inspired by Ribot and/or by the political alliance between France and Great Britain in the War.

Another example was the bombastic rhetoric employed by Patrizi, whose historical discourse attributes a central role to Italy during the meeting in Milan, saying: "In view of the notable development that the Physio-Psychology of work has achieved (…), the reminder that a juicy root of the new plant of applied science came from the soil that today is happy to welcome its thoughtful and assiduous cultivators seems an ineluctable reminiscence (…)" (Patrizi, 1923, p. 23)[44]. Additionally, due to the effect of the recent world war, international relations between the French and German scholars were still difficult. As we have seen, the meetings aimed to overcome precisely these national (local) differences and it is not by chance that it was a Swiss colleague, Claparède, who played a role as mediator. It is further worth noting that no such bold patriotic expression can be found in the talks of the more popular and central figures.

A second source of conflict we have seen was due to **professional rivalries**. The discussion following Lipmann's talk is especially illustrative because it touched on one of the most pressing conference themes: **who would be the right expert to conduct the assessment**. The director of the institute for experimental psychology at the University of Napoles, Cesare Colucci (see also the work by Romano & Foschi in this issue), proposed that the interviews with Lipmann's questionnaire should be done in collaboration by a psychologist and a philosopher, while Lahy claimed it was purely a psychologist's job. The engineer and director of the "Psychotechnical Institute Masaryk" Petr Ruzek[45] (from Prague, Czechoslovakia) informed the audience that in his country the engineer, the physician and the psychologist teamed up to study certain professions with the help of observation and the cinematograph. Only after an initial objective study using these methods was an abbreviated version of Lipmann's questionnaire applied.

The interaction helps us realize that the delegates entertained very different visions of who is(are) the right expert(s). Thus, the meetings need to be seen as a political arena in which speakers were also "professional delegates", demarcating their areas of expertise over several fronts. One friction zone lay between psychology and pedagogy (education). It became visible, for example, when Lipmann and Mira tried to inhibit teachers' engagement with professional orientation. Another power struggle surfaced in the separation between the "industrial psychologists"[46] and the engineers of scientific management. Similarly, a resounding clash between Stern´s team and Moede started in 1920 (well documented by Gundlach, 2009) and led to the denunciation of the latter for, supposedly, careless diffusion of testing and unethical methods for management[47].

Finally, a third source of tension was related to politics. Taylorism was a politically charged topic and, in this regard, **the socialist positioning of the leading figures, namely, Lahy, Mira, and Lipmann, was no secret**. Similarly, locating the third meeting in Italy represents this political inclination well. The meeting in 1922, in Milan, was hosted by the "Società Umanitaria", a socialist reform initiative linked to the Italian Socialist Party (Gabaccia, 1994). But when looking at the later historical development, the tables would turn quickly. Only a couple of weeks after the conference, the march on Rome would take place, with Mussolini and his fascist regime taking over the government. The new regime would impose an idealist philosophy, leaving the stage of psychotechnics precisely to the psychologist who had not participated in the Milan meeting, despite his interest in the area, because of his political opposition: the Franciscan (Catholic) psychologist Agostino Gemelli (1878-1959) (Foschi et al., 2013). Additionally, Patrizi's correspondence with the local host of the Milan meeting, the psychiatrist Giulio Cesare Ferrari[48] (1867-1932), shows personal animosities between him and Gemelli and, in general, divisions within the Italian community (see Romano & Foschi in this issue for yet another example of these divisions).

Also, in Spain the political situation would change only one year after the conference in Milan, with Primo de Rivera's military coup

[43] See also Billig, 2022, who argues for an entanglement between nationalism, globalization and cosmopolitanism.

[44] Here comes the full citation in the original language: In conspetto dell sviluppo notabile che la Fisio-Psicologia del lavoro ha raggiunto in America e in Francia, in Inghilterra (sic!) e in Germania, in Belgio, Spagna, Svizzera e altrove, non paia vanatzione poco fine di ospite, ma ovvia ineluttabile reminiscenza di un passat storico non lontano , il riandare que una succosa radice della nuova pianta di sciencza applicata provenne dal suolo che oggi si allieta di accoglier di quella i pensosi ed assiui coltivatori.

[45] The text says "psychotechnological" institute; and it seems that his name in the membership list "Rouzek" (1923, p. 15) was wrongly spelt in the Proceedings, so I corrected it (see Hoskovec & Brožek, 2007).

[46] Gundlach (1998b) observed the different terminology: the use of "psychotechnician" by a German speaker such as Lipmann (1923), and "industrial psychologist" by an English speakers such as Myers (1923).

[47] It had started in 1920 with a damaging report by one of Stern's co-workers about Moede's training course. That was just the beginning of an increasingly poisoned working atmosphere (Gundlach, 2009), in which Moede was pictured as a profit-oriented popularizer and inhuman psychotechnician, who would not hesitate to show managers how to get rid of unwanted coworkers.

[48] Collected at the fantastic "ASPI-Archivio storico della psicologia italiana" in Milan.

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in 1923[49]. In Berlin, Lipmann could still continue his work, expanding statistical methods and developing psychotechnics towards a broader area he called "the science of labor" (*Arbeitswissenschaft*). But with Hitler's accension to power in 1933, he lost his position, his institute and his life[50], while Moede enlisted in the National Socialist Party and continued to be active until the 1950s. The situation in Great Britain was more stable. Thanks to a combination of personal enthusiasm and outstanding social skills, as well as the favorable disposition of some leading managers, Myers and his institute in London were able to thrive, attracting substantial donations and support from both the unions and management (Bunn, 2025; Welch & Myers, 1932).

Conclusion

My research shows that **an interest in personality and promotion of a holistic perspective was already part of the agenda for some leading psychotechnicians, right from the very start of the meetings in 1920**. So, globally, **we can't talk about any revolutionary break, but more of an increasing interest**. A combination of the main findings of my micro-examination of the exchanges during the first psychotechnical conference meetings leads to a fresh view of the supposed "shift":

1. Contrary to the reductionist (simplistic) picture offered in the secondary sources[51], we have been able to observe that between 1920 and 1922 there was no established community of psychotechnicians. The International Conferences of Psychotechnics united a variety of professionals stemming from several countries within a relatively open atmosphere, allowing a **cacophony of voices** (including several languages and communication difficulties), reflecting local differentiations as well as professional alliances and rivalries.
2. Despite the differences, participants of the early meetings agreed on the object of psychotechnical intervention as being the assessment of a candidate's "professional aptitudes". We can detect in the talks tentative consideration of concepts, tools and tests and the predominance of a practical (pragmatic) stance[52]. We have seen that **right from the beginning, the conference participants were looking for ways to subordinate professional aptitudes under a more general (unifying) entity**.

   Furthermore, it is important to realize that for professional orientation and personnel selection to be perceived by the workers and the management as useful, **psychotechnics needed to rely on some relatively constant basis**. Only an assessment predicting a candidate's level of performance could achieve social relevance[53]. In this context, the references to an inherited "disposition" (sometimes also called "constitution"), "a personality" or "a temperament type", in my opinion, reflects this search for a temporary anchor[54]. However, what these terms meant and how they relate to one another was, once more, far from clear. Moreover, the idea of an inherited and constant "disposition" invites classification into kinds of people and a biological underpinning related to genes and eugenics, especially when the psychotechnician had medical-biological training. Yet, it is important to keep in mind that, at that time, this reasoning was made by republicans (progressive), liberals or even socialists, and not necessarily scholars linked to fascism (Sokal, 1987).
3. **During the first meetings (1920-1922), several holistic personality approaches were put on the table, none of which was related to German National Socialist ideology**. We have seen an outline of Patrizi's and Mira's talks concerning the working body inscribing its "personal curve" and Lipmann's search for a "work-gestalt". Here now we can answer the initial question about the "trusted knowledge" (see introduction): the proposals we find in the proceedings relied on the philosophical concepts and the experimental work of prestigious scientists such as Mosso, Turró, the gestalt psychologists, not directly related to psychotechnics. If we add Myers' and Stern's and compare them, we see that these approaches entertained a differentiated ontological understanding of what constitutes a person or an organism. In practice, this translated into a preference for certain tools and testing procedures, often combined in a theoretical non-coherent way.

   Additionally, while the personal-curves reflected the requisites of rigorous laboratory science (requiring expensive brass instruments and medical expertise), its methods and results were not easily transferred to the workshop. Furthermore, such an approach implies a preference for physicians and a dissolution of the boundaries between medicine and psychology. Psychological testing and Lipmann´s questionnaire combined with phenomenological observation, in contrast, could be used to justify the need for psychological expertise. Furthermore, it had the advantage of being relatively flexible and, at least apparently, easy to conduct. It could be linked to a demand for thorough psychological training (as a gate-keeping strategy), while marginalizing other professionals (especially pedagogues).
4. When reading the proceedings, we get the impression that, for several reasons, **the participants of the first International Conferences of Psychotechnics were in a difficult position**. Even if some of them had a thorough scientific background, their former peers working in the laboratory (experimental

[49] And later, after the short period of the Second Republic, Franco´s dictatorship started. About a recent study on a psychotechnical conference during that period, see Bandres & Carpintero (2026).

[50] The biography by Von Rosenstiel (1985) and Plavinskaya (2013) state that he committed suicide, whereas Stern in his obituary (1934) talks about a heart attack.

[51] See discussion in the first article of the issue.

[52] In my research I only mention some tests and methods these professionals were employing. For more on psychotechnical devices, see Gundlach (2002, 2009).

[53] Making predictions was risky. See, in Vermeij's paper in this issue, how some Dutch psychotechnicians included the judgement and opinions of foremen and managers in their diagnoses. Besides predictions, psychotechnicians also tried to underline the usefulness and the relevance of their work using statistics, pointing out how the number of accidents or the consumption of energy had decreased since their interventions (see, e.g. Moede, 1922).

[54] Nevertheless, given the difficulty of the relative lack of stability of the measurements, Lipmann insisted that in the case of young workers a prediction is not possible and Mira would push hard during the meetings demanding a continuous ("chronic") psychotechnical assessment based on regular checks of a worker's performance and aptitudes.

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psychologists, physiologists, etc.) would often no longer see them as "true scientists" (see, e.g. the case of Moede in Gundlach, 2009). And within the work sciences, management and shopfloors, their expertise as laboratory scientists was denounced as a misfit, as not preparing them sufficiently to deal with "real life problems" (we have seen the Gilbreths' attack). But they were also not yet members of a consolidated, regulated and prestigious profession or specialization[55]. The expressions "psychotechnician" and "industrial psychologist" were still new and fragile; they were not yet widely understood. While scientific management experts considered the psychologists' attempts to enter into "their" terrain a complete failure, the latter exploited what seemed precisely to be the weak point of scientific management, situating themselves closer to the workers than to management.

Similarly, within broader society, psychotechnics entailed a nearly impossible balancing act. In the early 1920s, with violent clashes taking place between workers and company owners and directors, work sciences constituted a heavily politicized field. On the one hand, practitioners had to gain the trust of the unions and the workers because without their collaboration no assessment could be made. In this context it doesn't come as a surprise that one of the main concerns of the early meetings was to support the introduction of a maximum working day of eight hours (this was discussed and approved at the meeting in 1921 in Barcelona, see Proceedings, 1922, in Gundlach, 1998, vol. 2, pp. 396-397). On the other hand, the psychotechnicians generally needed substantial funding from the management for their psychotechnical institutes and services[56]. Additionally, I have already outlined how the political changes (and especially the rise of fascism in Europe in the 1920s and 1930s) would enhance some psychotechnical projects, while annihilating others. For this reason, names like Lipmann's were no longer mentioned, when in the late 1920s Moede, Giese, and Baumgarten suddenly discovered their own interest in a holistic view on personality[57].

Finally, and to close, I want to remind the reader that history tends to reveal continuities and discontinuities. While I pointed out a certain continuity of an interest in personality and a holistic orientation, my research also reveals that in the early 1920s, "character" was not yet considered of central importance (at least not for professional guidance), and there was no interest in exploring a person's "deeper" personality.

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[55] I'm not saying that psychotechnics was the first kind of professional ("applied") psychology (for more information on this, see, e.g., Gundlach, 2004; 2007).

[56] Even if they received governmental or municipal support, this was usually not enough (see also the contribution by Vermeij on the two institutes in the Netherlands).

[57] Among other cases, a similar amnesia occurred a decade later with I. Spielrein see Carpintero,2019 .

[58] The talk is only signed by the Bureau, not by the name of any speaker.

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