WORK AND ORGANIZATIONAL PSYCHOLOGY

Enzo Spaltro
University of Bologna, Italy

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Work and organizational psychology can be considered an indicator of the development of an affluent society. This is because the transition of society from a state of poverty to one of wealth has gradually caused the emergence of subjectivity, because the products of work are more and more immaterial and psychological, and because people’s aspirations are becoming more and more subjective, concentrated upon attainable desires rather than upon insatiable needs. Thus, work and organizational psychology has contributed to the transition from malaise to well-being and has become a science typical of affluent societies. It can be denoted by the acronym WOP (work and organizational psychology), which can be subdivided into six themes.

1. Thinking, and Thinking in Order to Believe

1.1. “Doing” Psychology: Thinking and Operating with a Subjective Concept of Work

One point of departure for confronting this problem is the idea of well-being, or mental health—the description of subjects at work and who they really are. To individuate the aims of organization, the economy, and the political future, we must define, also operatively, what is meant by subjective well-being and mental well-being. Hence, the point of departure might consist of the following questions:

- How do we evaluate the efficiency of economic and political structures, and how do we evaluate the social artifacts produced by the subject?
- How can we make the very most of human resources and of subjective and psychic well-being?

These questions propose a change in the function of psychology, which thus represents today in Italy an application of subjective and psychological technology to the management of social and human development. They also propose an acceleration of development processes. Accordingly, work and organizational psychology (WOP) is suggested as a science of active human options.

1.2. The History of the Psychology of Work

At the end of the nineteenth century, work ceased to be simply an instrument of mechanical energy. With the rise of collective rather than individually owned enterprise, the protagonists of the work process could be defined. Workers began to be protagonists, not simply conductors of mechanical energy, and became the opposition to the other protagonist, capital. Thus began the long struggle for the distribution of the results of production that is known as the industrial conflict.
This antithesis between capital and work was infiltrated by ever more numerous and complex variables; thus, work became different—more psychic, varied, and complex. It was this complexity that gave rise to the psychology of work, beginning with its first applications by Hugo Munsterberg in Freiburg, Germany (1885). To Guido Dalla Valle (Rome, 1910) we owe the coining of the word \textit{psicotecnica}, or \textquote{psycho technique.}

Both Munsterberg (Freiburg, 1915) and Patrizi (Modena, 1889) organized laboratories of psychology applied to work. During World War I, American psychologists made a very important contribution in October 1917 by preparing the first two tests of mass selection: Army Alpha (for the literate) and Army Beta (for the illiterate) were used to choose the soldiers that went to war in Europe. In that same year, Agostino Gemelli in Italy also prepared a system of military selection. In 1920, Charles Myers founded the National Institute for Industrial Psychology (NIIP) in London. Also in 1920, at the Charlottenburg High School near Berlin a laboratory of psychology was founded by the German trade union, while in Geneva the Associazione Internazionale di Psicotecnica (which became the Association Internationale de Psychologie Appliquée (AIPA)) was founded by Claparède and Walter. A fundamental contribution was made in 1927 at Western Electric in the United States, by Elton Mayo. To this psychologist and his two students Roethlisberger and Dickson we owe the first great research into the psychology of work. On April 25, 1927, Mayo initiated his experiments at Western Electric’s Hawthorne plant, with the room tests for the electrical industry assembly line. The 1929 financial crises caused the psychological point of view to recede, and the dictatorships taking power in Europe in those years blocked subjectivity. The psychology of work moved to the United States, and was supplanted in Europe by silence. Subjectivity was constrained to submit to a special rapport with economic power, to which it was considered vulnerable. Then began the liberation of psychology from economic power. The dictatorial European regimes had rejected psychology as dangerous for its subjective nature, and it was therefore only during the aftermath of World War II that psychology began to reassert its autonomy from the economy.

Thus, we can distinguish four periods in the evolution of the psychology of work:

1. \textit{An interpersonal period}, from 1945 to 1963, beginning with the reconstruction of Europe and Italy and continuing until the creation of Students for a Democratic Society (SDS), and the beginning of criticism of the productive systems in use. The interpersonal period saw the emergence of human relations. It was in 1945 that Division 14 (Industrial and Business Psychology) of the American Psychological Association was founded. Kurt Lewin launched the journal \textit{Human Relations} and the Center for Human Relations in 1947. In 1963, the Association Internationale de Psychologie Appliquée was called also International Association of Applied Psychology (IAAP-AIPA).

2. \textit{A \textquote{hot} period}, from 1963 to 1970, during which an array of proposals for models of individual and collective subjectivity were developed (hence the era was considered \textquote{hot}). The study and use of small groups between 1966 and 1968, and the revolts of students and workers between 1963 and 1970 did not permit the subjective dimension to express itself practically in the world of work. Theoretically, interest in subjectivity was emerging, but practically it was being eliminated as too scientific and utopian, and as enslaved to power. This creative, stimulating period was characterized by the transition from pair psychology to that of small groups, or even to large ones or collectivity.
3. A social period, or one of small groups, from 1970 until the fall of the Berlin Wall in 1989, when the transition from a poor society to a rich one (at least in North America and in most of Western Europe) took place. In this period it seemed that the psychology of work would have to submit to negative, repressive influences. Instead, many practical achievements were developed in the study of work-related subjectivity. It was accepted that not only pair relationships functioned at work, but also small groups relationships. It was thought that the future should be seen as made up of diverse, successive moments (temporal pluralism). A parallelism between the collective and the future was devised (there is no future without groups, and no group without a future).

4. A period of well-being and of the ideology of peace, begun with the end of the Cold War and the fall of the Berlin Wall, which refuted the “bellicose” ideology based on scarcity of work and proposed a “pacific” ideology based on abundance. By the end of the twentieth century, the opposition of capital and work had diminished in importance. The protagonists of this antithesis were no longer only two, while the principal conflict was passing from capital-work to citizen-state, and from two to many protagonists. The industrial conflict was becoming social conversation. With the start of the third millennium, WOP was characterized by a growing faith in the subjectivity of workers and by a consequent desire for well-being and abundance.

1.3. The Subject as Holder of a Hypothesis Project of Well-being

In order to pass from the management to the enhancement of human resources, we cannot avoid discussing the subject who constitutes a human resource, or the well-being that strongly inspires behavior. Today, the concept of well-being has a largely subjective nature. Therefore, any discussion of about well-being must pass through a discussion of the idea of subject. For years, the validity of the idea of the subject has been negated in order to attain an objective, mythologically permanent well-being outside the subject. This concept has been derided by means of a fictitious opposition between subjectivity and objectivity, in order to sanction the predominance of the object. It is only recently that the identity of the subject and the point of view of the observer have also been sanctioned, in organization, distribution, and economy. Today, the economy can no longer be just the theory of currency, that of efficiency within social or state systems, or that of the pure study of functional utility, like a mathematical-statistical rationality. The economy is increasingly subjective, and therefore centered on the emergence of the subject in the determination of well-being and the motivations towards it.

Let’s examine what a subject is. A subject is a global dimension of being: the unique, original, and unrepeatable way that each person constructs, with all their biological, social, and psychic resources, to brave the adventure of the pursuit of well-being in their own way. A subject is, principally, an independent variable that influences and constructs a large part of the biological, social, and psychic reality in which they live. Often, for motives of inner reassurance, people perceive as objectives certain dimensions that are nothing but pure social artifacts (i.e. all units of measure (meter, gram, decibel) and all social structures (state, organization, law)). The subjective economy, therefore, takes these social artifacts—or constructs thanks to which subjects construct their reality—into serious consideration.

2. Knowing, and Knowing in Order to Operate
2.1. Measuring Some Psychic Variables (see *Methods in Psychological Research*)

Work organization is a perception; workers learn about their own subjectivity by means of specific measurement. By measurement, we mean the association of symbols or numbers to empirical facts with the aim of obtaining greater tractability of the data. This 1951 definition by Stevens underlines the scope of psychic measurement, which is the tractability of the data, not simply their verification, and much less so their quantification. Therefore, to measure a psychic variable, it is not necessary to quantify it; rather it must be made tractable.

What, then, is this tractability of psychological variables? To define tractability means to define measurement. We must, however, avoid the tendency (for love of precision and measurement) to create adulterations that no longer correspond to the variables we want to measure (which is boring). Too much precision is contrary to precision. Too great a quantity is contrary to measurement itself. To avoid these errors we need to examine the types of measurement available. For a measurement to be valid it must have two characteristics: isomorphism and invariance.

*Isomorphism* is the correspondence between symbols, signs, or numbers on the one hand, and psychological variables on the other. This correspondence specified one-by-one (i.e. isomorphism, or the same form) means that a certain variable always corresponds to a certain symbol, sign, or number. If I say “emotion” I must always mean the same state of being; otherwise, isomorphism does not exist and measurement is impossible.

*Invariance* is the absence of change on at least one point: if all the variables change and influence one another, we must choose one, even arbitrarily, to remain constant. That variable is called the independent variable. If, for example, I want to see how work satisfaction varies, I must decide what is considered the cause and what the effect. The cause is assumed to be independent of other factors. It is only in this way that I can measure, because if all the variables are considered to be in motion they cannot be measured, and thus their tractability is null.

Isomorphism and invariance are the logical devices that permit us to stabilize the quality of the measurement, that is, the levels at which the measurement is valid. These levels are called scales of measurement (see Table 1).

<table>
<thead>
<tr>
<th>Type</th>
<th>Characteristic</th>
<th>Example</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nominal denomination</td>
<td>Simple individualization of quality or psychic state</td>
<td>Clinical level</td>
</tr>
<tr>
<td>Ordinal</td>
<td>Listed, or in order</td>
<td>Comparative evaluation by method of matched paragon</td>
</tr>
<tr>
<td>By interval</td>
<td>Unit of measurement, quantity or quotient of intelligence, constancy of interval</td>
<td>Measure of behaviors, intensity of variables, including their factors</td>
</tr>
<tr>
<td>By increase</td>
<td>Unit of increase or decrease</td>
<td>Variation of perception,</td>
</tr>
</tbody>
</table>
or of change

| threshold and changes, constancy of opinion, subjective scale of assessment |

Table 1. Scales of measurement

A measurement must be valid. An invalid measurement is called an error. One cannot, therefore, study a measurement without studying its possibility of error. When we measure a psychological variable or subject we have a statistical possibility, expressed mathematically as a probability, of running into two types of errors: the first is to believe that the measurement is true, when it is false; the second is to believe a measurement false when in fact it is true.

2.2. The Interview

The problem of interview techniques is crucial in the psychology of work, because without interviews it is impossible to study either people as a resource, or subjectivity. In fact, it is impossible to know people’s subjectivity without entering into a relationship with them. Psychological knowledge always occurs by way of a relationship; we cannot know others, we can only know our relationship with them. We derive from it something that can be called the “principle of psychological indetermination.” This means that since we cannot know someone without entering into a relationship with them and since by doing so we modify that person, we can never know another person as they were before entering into a relationship with us. This uncertainty principle, apparently insurmountable, admits of only one solution: we can know in what way we modify the other people we know. We can reconstruct, by way of our knowledge of others, the characteristics that they had before entering into a relationship with us. From this stems an important consequence: the affirmation that the most sensitive, valid, and reliable instrument of measurement is the individual person—a calibration that requires paying the greatest possible attention.

One preliminary concept is the distinction between the contents and the characteristics of the people interviewed. The contents are the things that get transmitted or communicated during interviews, while the characteristics of the people interviewed are the deductions that one can make from the contents with respect to those people. Another preliminary concept is the distinction between the contents and the processes. The contents are, as we have seen, the things talked about during the interview. The processes are the ways in which these contents get treated.

It is also important to be aware of distinctions between the motivations of the interview, which can be intrinsic (having to do with the individual interviewed), or extrinsic (having to do with the interviewer). If an interview has an intrinsic motivation, it is called a colloquy; if it has an extrinsic motivation, it is called an interview. In reality, psychological interviews are those with an intrinsic motivation, even if no interview has a single motivation. The skill of an interviewer rests in transforming each interview with an extrinsic motivation (such as selection) into an interview with an intrinsic motivation (see Interviewing and Observation).
2.3. Psychological Tests

A test is a statistical sample of a subject’s behavior from which one can statistically infer broader or even global behavior, another behavior, or a future behavior or state of being. Each test, then, has its own way of collecting a behavioral sample, its own capacity of inference, and its own constancy in time. These three characteristics, which constitute the technique of constructing a test, are called: choice and analysis of the test items, efficiency and utility of the test, and its reliability.

The efficiency and the utility of a test consist of its capacity for inference, or the probability that a test has to succeed in dealing with the variable that it measures. This characteristic of a test is expressed according to levels of probability. If one test of individual A gives the result XA, what probabilities exist that one can compare this result with those of other subjects and that, in addition, it will remain constant in time? This means that the test must be efficient (valid, reliable, sensitive, and practical). The tests that measure current behavior are called assessments or gauges; those that measure future behavior are called forecasts or predictors. Their usefulness and efficiency consist of diverse parts, which constitute the procedure for evaluation of a test.

Tests must therefore have very precise characteristics, conforming to the standards of the American Psychological Association. It appears evident how important the evaluation of a test is, that is, the assessment of the existing relationship between the current result of the test and the current or future working result. Thus, the assessment of the grade of statistical inference realized, and consequently, the possibility of treatment that a measure permits is strongly affected. The inference of a test comprises four characteristics, of which two are fundamental: validity, accuracy, practicality, and sensitivity. The predictors must also possess a fifth characteristic: predictability, or a certain plausibility of expectation. In fact, without predictability, the users’ level of trust in a test drops notably (see Psychological Testing and Psychometrics).

2.4. Small Groups

The history of small groups and group formation offers a long series of examples of how the idea of groups was exhaustively developed in the twentieth century. In Boston in 1911, Joseph Pratt realized from studying tuberculosis that the patients who talked in groups got well faster than those who stayed by themselves. At General Electric in 1927, Elton Mayo initiated the experiments he called “room tests,” which consisted of observation of groups at work. The women at work produced more if something happened in their environment: if the walls were painted a color, if music was played, if some visitor arrived. Productivity was a species of return for the attention they were paid. Mayo published his book Social Problems in an Industrial Civilization in 1933. In 1932, Jacob Moreno published Who Shall Survive? in which he presented the method of psychodrama, the physical representation with action of exact desires and expectations. Action had to regain its real supremacy over the word. The psychodrama of Moreno was based on the use of small groups in small theaters where these psychological “dramas” were presented.

In 1947, during a course for social workers, Kurt Lewin realized that the students learned better if they participated in discussion with the teachers. Thus, the technique of
the non-structured group called “T-group,” or training group (basic and non-managerial), was born. In 1954 during the Korean War, Bales and Slater realized that American aircrews who had had group training were not shot down by enemy anti-air artillery. Thus, the concept of differentiation of leadership and plural command was born, with the consequent invention of task forces (groups with multiple leadership), and the idea of organization by matrix.

The study of groups has many aspects, such as the measurement of groups, research into group dynamics, and the clarification of what exactly is meant by a group model. The measurement of groups is difficult because it requires modifying the conditions of discussion for the group itself. It necessitates observation by non-participants, researching subgroups, or recording with audio or visual methodology. Research into group dynamics can be done with questionnaires at the end of the group, with audio or video recordings, with analyses of language, or with the dramatization of typical actions or behaviors. Therefore, all measurements and interpretations refer to group psychology, to group experiences (i.e. the mode in which the subjects that compose a group experience it) (see The Social Psychology of Small Groups).

2.5. Power: Quantity and Quality

Let us examine the definition that Rollo May gave in his 1972 book *Power and Innocence*. Power is the capacity to cause or to avoid change. It has two dimensions. One is power as potentiality or as latent power. This is power that has not yet been completely developed; it is the capacity to provoke change in the future. We are talking about this future change as a possibility, a word that derives from the same etymology as power; that is, from the Latin *posse*, to be able. The other dimension is power as actuality. The logical link between change and power seems evident; consequently, so does that between power and efficiency. Since power influences change, it affects the cost of the organizational systems and therefore indirectly determines efficiency, or the relationship between product and cost. Continuing to follow the ideas of May, we can distinguish five types of power: exploitive, manipulative, competitive, nutritive, and integrative.

Power is conceivable as an influence on an individual (pair), on a group (micro), on a set of groups or an organization (macro), and on a collective (mega). As it is about being influenced by relationship, one can imagine a mirroring, or a reciprocal influence, between the two or more protagonists in a power relationship.

The problem of efficiency is tied to that of power. There are several typical conceptions of power, and five different levels of social functioning. At the pair level what prevails is the fixed sum, semaphoric power—the therefore the competitive type—while at the group level a variable sum type of power prevails—so we have an integrative or nutritive type. The feeling of power varies with time. If the variations of power (how much I believe I have at work and how much I believe the job has over me) reverse themselves, we can say that power is of the first type—fixed sum and semaphoric quality (i.e. paired and competitive). If they go in the same direction, we can say that power is of the second type—variable sum and integrative, generative, or enlightening (i.e. of the group).
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Biographical Sketch

**Enzo Spaltro** was born in Milan on July 3, 1929. He graduated in medicine (1953) and took up specializations in work-related medicine at the University of Milan (1955) and in the psychology of work at the Catholic University of Milan (1957). He held the positions of assistant, Institute of Psychology, Catholic University of Milan (1955–1959); research assistant, Institute of Psychology (1961) and Social Psychology (1966); professor of social psychology (1961–1967) and of work psychology (1967–1970), Catholic University; professor of work psychology, University of Trento (1968–1970); tenured professor of work psychology, Department of Political Science, University of Bologna (1970 to the present). He was a lecturer in psychology (1960) and in social psychology (1966).

Professor Spaltro was president of the Associazione per la Psicologia Italiana del Lavoro (APIL) (1961–1969); president of the Associazione Italiana di Psicoterapia di Gruppo (AIPG) (1962–1966); founder of the reviews *Psicologia e lavoro* and *Psicologia italiana*; president of the Istituto di ricerche e di interventi psicosociali (IRIPS) (1968–1977); and lecturer at the University of Quebec, Canada (1972). He was awarded an honorary Ph.D. (1977) and subsequently made honorary professor of work psychology, University of Assuncion, Paraguay; lecturer at the National University of Tucuman, Argentina; lecturer at the University of Maryland, USA (1993); president of the Società Italiana di Psicologia (SIPs) (1978–1981 and 1992–1994); and director of the School of Specialization in Industrial Relations and Work, University of Bologna (1981–1997). He has been an associate of his own foundation AIF and a member of its didactic council since 1992, and vice president since 1997, and has been director of the doctorate program for research in work and organizational psychology since 1990. Professor Spaltro has been an author and presenter for on Italian television Raiuno (*Test*, *Il Mercato del Sabato*, *Il Bello della Diretta*, *Pomeridiana*, *Di che vizio sei?* (1983–1989), director of the reviews *Teorema*, *Psicologia Italiana* and *Psicologia e Lavoro*, and president of the Eighth European Congress of Work Psychology, Verona, Italy (April 1997).

His publications include *Psicologia del lavoro* (Etas, 1967); *Gruppi e cambiamento* (Etas, 1969); *Psicologia organizzativa dinamica* (with G. Pollina; Etas, 1973); *Storia e metodo della psicologia del lavoro* (Etas, 1975); *Oggetto d’amore* (Clueb, 1977); *Dizionario di psicologia del lavoro* (Ghisoni, 1977); *Lotta contro e lotta per* (Celuc, 1977); *Personalità e Sintalità* (with F. Del Corno; Etas, 1977); *Psicologia economica* (Etas, 1977); *Il check up organizzativo* (Isedi, 1977); *Psicologia organizzativa* (Clueb, 1979); *Le storie dell’archipelago* (Clueb, 1980); *Soggettività* (Patron, 1980); *Dis* (Clueb,1983); *Psicologia delle organizzazioni* (with M. Bruscaglioni; Angeli, 1983); *L’unicorno* (Clueb,1986); *Pluralità* (Patron, 1986); *Complexità* ( Patron, 1989); *Fare e disfare* (Cespin, 1990); *Psicologia delle organizzazioni* (with P. deVito; Carocci, 1989); *Giappone 90* ( San Marco, 1991); *Quality* (Patron, 1995); *Il buon lavoro* (Edizioni Lavoro, 1996); *La buona scuola* ( Penna d’oca, 1997); *Sabato* (Clueb, 1997); *Passione* (1999); *Il gruppo* (Pendragon, 1999); *La filosofia del benessere* (with Paola deVito Piscicelli; Angeli, 2001); *Psicologia per le organizzazioni* (Carocci, 2002), *La forza di fare le cose* (Pendragon, 2003), *Il significato della rivoluzione* (Guerini Associati, 2004), *Il clima lavorativo* (Angeli, 2004), *Conduitori* (Angeli, 2005).