

## **La valutazione di collettività**

Silvia De Marchi

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In 1925\*, in *Atti del IV Congresso Nazionale di Psicologia*, Silvia De Marchi published a long abstract of the article on numerical evaluations that she published four years later in the journal *Archivio Italiano di Psicologia*. The following is my translation of this abstract.

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\* The *Atti del IV Congresso Nazionale di Psicologia* have the date 1925 on the title page and the date 1926 on the cover.

## The evaluation of collectivities

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The present experiments on the evaluation of numerical collectivities are connected with other previous experiments by Liebenberg (1913) and by Benussi (1916). An attempt was made at developing the analysis of figural and kinetic factors, which before had received little attention, by varying the external conditions and the internal conditions (behavior of the subject) of the evaluations. The work is divided into two parts, corresponding to the two groups of investigations. The first was purely *evaluative* with experiments done with the purpose of specifying the relations between evaluations and external factors. The second was *introspective* to establish which are the internal conditions that make such factors effective.

I summarize the results of the first part:

Having verified that, if one shows equal complexes of dots to different subjects (for a very brief time so as to exclude any possibility of counting the dots) and invite them to evaluate with a numeral such complexes, one obtains evaluative judgments subjectively confident but very different from subject to subject (a collectivity composed of 82 elements may be evaluated as one of 45 elements by one subject, as one of 150 elements by another subject); and having verified that the tendency to over or undervalue is an «*individual constant*» that occurs for the same subjects in all experiments, we have tried to specify the laws of numerical *evaluation* or evaluation of *collectivities*.

Having made some preliminary experiments concerning the *absolute impressions* of very few dots (vf), few (f), indefinable (i), many (m), very many (vm), in which it has been ascertained that the evaluations relative to *vm, m, i, f, vf*, constitute a geometric series; having established the effectiveness of the factor of *perceptual vividity* as a determinant of the two under and overvaluator types; in experiments inverse to the previous ones, where the subject was invited

to assume collectivities corresponding to subjective evaluations expressible with  $vm, m, i, f, vf$ , the laws of evaluation were searched by varying the external factors concerning:

**1. – The density of dots in amorphous complexes.** The following results were obtained:

a) subjects may be distinguished in two types: *under* and *overvaluators*.

b) the undervaluators have a slight tendency to overvalue collectivities of less than 20 elements.

c) the errors of under and overvaluation are not opposed so equally to give a mean that practically cancels them.

d) such cancellation seems to exist above the 150 elements.

e) in the overvaluator type the overvaluation increases up to collectivities of 60 elements, or diminishes as they progressively increase.

**2. – The duration of exposure.** It has been possible to ascertain that:

a) the under and overvaluations correspond to *multiples* of a given *constant* equal to 600 or 700 thousandths of a second.

b) the duration of the exposures appears subjectively the less the larger the number of exposed elements. This indicates that the process of evaluation is given by a *complex* of partial processes and that a faster perception can be a factor of overvaluation.

**3. – The extension or contraction of area.** It has been possible to ascertain that the contraction of the area is a factor of undervaluation, due probably:

a) to the connection between the absolute impressions of *little* and *few*.

b) to the larger cohesion of the elements when the area is small, which makes more difficult the scission in partial groups which is, as we shall see, a factor of absolute or relative overvaluation.

**4. – The grouping of dots and their objective disposition.** It has been observed that:

a) the rectilinear disposition constitutes a factor of overvaluation over the curvilinear disposition.

b) the disposition «on the surface» constitutes a factor of overvaluation over the rectilinear disposition enclosing an equal surface. This applies to *circular* surfaces as well as to *rectangular* surfaces.

c) the factor *unidimensional* is a factor of overvaluation over *balanced* circular or square dispositions. This factor, as all the other factors, can be exclusively «subjective» and as such can constitute one of the basis of the overvaluator type.

d) the factor *unidimensional* acts as a basis of overvaluation up to a certain extent of *slimness* of the perceived figure; beyond that extent it becomes a factor of undervaluation.

**5. – The shape of complexes and their architectonic disposition.** It has been observed that:

a) the *figural* factor or *accent* is a factor of overvaluation.

b) when the spatial disposition of the dots of a given figural collectivity is such as to allow a subdivision in groups, the absolute or relative overvaluation increases.

c) from this results the importance of the *nucleal factor* in the determination of the «type».

d) as we have seen, for balanced amorphous complexes, dimensionally balanced figural complexes are undervalued. Pluridimensionality is instead a fundamental factor of overvaluation.

e) the importance of the figural factor in the determination of the type is evident when one becomes aware of that figurative spontaneity that leads us to trace shapes in many amorphous things (clouds, blots, etc.) and that probably increases subjectively in tachistoscopic experiments as ours.

Dynamic experiments were subsequently set against the series of static experiments. The complexes appeared in front of the subjects

as moving behind a slit. Also in this series of experiment we considered: *amorphous complexes* in rapid, slow, medium *motion* and *architectonic complexes* on small and large areas.

**6. – Amorphous complexes:**

- a) the *rapid* motion favors the overvaluation.
- b) the *slow* motion favors the undervaluation.
- c) the *medium* motion favors the maximum undervaluation.

One could ascribe the overvaluation of a) to a subjective factor that we have called *chimoscopic accent*, that is, to the impression that the dots pass in waves or in spurts behind the slit constituting the field of exposure; this factor being similar to the pluridimensional and nucleal factors observed above.

**7. – Architectonic complexes in motion:**

a) on a large area the action of the figural factor (of overvaluation) no longer has the effectiveness verified in the static experiments. The *chimoscopic* factor noted above has instead the maximum effectiveness as element of overvaluation.

b) on large areas the results are similar to those obtained on large areas when one excludes the factor of undervaluation given by the contraction of the area already ascertained in the static experiments.

Having thus established the stability of the studied external factors, one will have, on the basis of the series of introspective researches mentioned above, to try to understand the internal evaluative behavior that, only partially determined by the noted external conditions, leads to a given concrete evaluation.

Concerning the subjective confidence about the evaluations we note one result only: of two evaluations given some time by the subject, one of which is immediate and instinctive and the other mediated and *reflective*, that is, based on retrospective elements of judgment, the evaluation that imposes itself as more reliable is the immediate one, the *less rational*.

Here too counts the *persuasive* force of the first impression.