

Amorabilità. F. p. e. spunti
confronti gravitose (Tampieri
Ragot)
Percezione visiva

Tutti

1. Quete app. e colabore.
2. Causalità (attrazione); Patri
3. Trasparenza

Effetto Peter

mov. pendolare e piano inclinato

mov. indotto

After effect

espressioni

Ps. animale

(Ravos, Zanforlin, Im)

Ps. sociale

(Caporra, Im)

Stereotipi; non e. int
Stereotipi professionali
e caratteri

Vecchi e giovane

Possibilità di compren-
sione fra partiti politici

Livelli mentali

ultimi e campagna

Espressioni verbali
e non verbali

Psicologia

Im - Morconi

Comparativi

(Volume)

espressioni

algebra

Ps. età evol.

Psicol. infantile ne. Ragot
(Chrupp mentale)

Linguaggi (Lavori Peter)

Psicomotricità

Do, Im (Kali)

Ticologia Testi

Metodi Psicomotrici

Analisi psicomotrici

Scala emancipazione donna

Caratteristica

Stereotipi professionali
e caratteri

Testimonianze

e memoria

memoria (Bentli)

Trasformazioni mentali

Influenza imputazione

(Patri)

Ps. musicale

Ticologia

Studi (trasformat.)

Figure e spunti

Delimitazione. Tonalità

Bumpire schema
Mucals. stip.
Agenda viaggi
Tel. Trento data esami
Tel. dimissione o andare conorische
Parlare p. concorsi tecnici
Fotografie

Prisonali

Pr. applicata
Pr. arche filia

Boyschach - metrum
e intermetrum

Test: documenti A.
giuridiche e di
provinale

Perizonia testamenti
Personalita parente
cura - D.M. S.M.

Heller
cliques
Bibliogr. Trento
Rup. Ferrarin
Bibliogr. Spagna
Figure cliques
Lipson
Bibliografia Trento

~~Ricerca foto~~

Harl Furman Stanford
(metrager)

Esperimenti da servire nell'interrogazione

Stereocinetici	malleggera città e
Quiete apparente	menzogna comparsa
Totalizzazione	errori tradizionali
Censura	Talbot e diagnostik
Identità fenomeno	rapido
Trasparenza	Criterio in P. applicati
anfibiofia: Tampini	Impetione da prestigio
Luna	forma - calore
Camera distorta	associati - perverbi
Confronto successivo	e tipi caratteristici
Controllo	apprendimento prologo
Testimonianza	metodi per - suggestivi
	menzogna
	tempo
	figura - spontanea



CEAT

PNEUMATICI PER MOTORSCOOTERS



W. Klemm e
in interazione?

A group of experiments concerns the centration-decentration theory, which represents the theoretical basis of a series of experimental investigations on perceptual mechanisms, done by Piaget and his collaborators.

The subject of one of the first experimental investigations in perception by Piaget and Lambercier is the problem of measuring and measured in the comparison of sizes.

The subject had to compare vertical metallic rods two at a time. The standard, whose size was 10 cm. remained at his place on a table at the height of the eyes of the subject during the whole experimental series and has to be compared successively with 17 rods whose size varied of steps from 7 to 13 cm. which were put one after the other on the same table. The subject had to judge if the variable was greater equal or smaller than the standard. Five series of comparison were made, with different distances between standard and variable; from a minimum of 3 mm. to a maximum of 3 m. The subject's distance from the table where the rods were placed was 1 m.

Piaget and Lambercier worked with different age groups, from children to adults. With adults results were following.

With short interrod distances (till 1 m.) subjects underestimated the standard, while they overestimated it when the distance between rods was 2 m. or more.

Piaget and Lambercier's explanation of results was following. Subjects are using two different techniques of comparison. With short distances between rods they construct an ideal figure joining the tops of the rods, while with longer distances, being impossible to use this technique, subjects "transport" ideally one segment on the other. The effect of these different comparison techniques on results is explained applying Piaget's centration-decentration theory.

According to thir theory the part of the visual field which is fixed by the subject is automatically enlarged (centration process); but this surevaluation is compensated by fixing of another part of the visual field (decentration process). Comparison of two figures is done through alternative fixation of either figure; but if one of them is fixated more frequently and for longer time, compensation is only partial, and the more fixated figure will be surevaluated.

Using the technique of figure-construction, it is the variable, which is less known, that is fixated more of t~~an~~ and for longer time, and therefore the variable is surevaluativ and expressing results in terms of the standard the standard is subevaluated. Using

the transportation technique, it is the standard, which is better known that is transported, and therefore fixated for longer time and more intensively by most subjects.

Reading Piaget and Lambercier's paper, I was by no means convinced by their interpretation based on the centration-decentration theory, and I thought that, being question of succession comparison, memory traces transformations could be responsible of results, to ^{to} test this hypothesis I proposed Dr. Tampieri, my former assistant, to develop further (resume) Piaget and Lambercier's research.

Besides repeating exactly P. and L. experiment Dr. Tampieri added two other series, which differed from the basic one only in the size of rods. While in the series which repeated P. and L. experiment the standard was 10 cm. long, the standards of the new series were respectively 5 cm. and 50 cm. The reason of these new series was that if the effect observed by P. and L. (which can be described as "surevaluation of the measuring instrument") was due to memory trace transformation, the tendency of transformation would be in adverse direction for "long rods" and "short rods", according to the central tendency.

Tampieri's results supported ~~a~~ clearly his hypothesis. First of all, results of P. and L., that is underestimation of the standard

for short distances and overestimation of the standard for long distances were not confirmed by Tampieri's results; but, according to our expectations in the series with "short rods" the standard was overestimated by most subjects, while the contrary happened in the series with "long rods", that is, the great majority of subjects underestimated the standard. Therefore Tampieri concluded by stating that his results were incompatible with P. and L.'s theory.

Piaget reacted with a critical paper, maintaining that Tampieri's results were in agreement with his theory, because the greatest distance between rods at which figure-construction technique was yet used varied with the size of rods. Therefore, if with the fundamental series (where the standard was 10 cm.) the greatest inter-rods ~~distance~~ at which figure-construction technique was used was 1 meter (and at greater distances the transportation technique was used), the greatest inter-rod distance for figure construction become 50 cm. the "short rods series" (where standard was 5 cm.) and 5 meters for the "long rods series" (where the standard was 50 cm.). And Tampieri having used the same inter-rod distances for all series, comparisons with short rods had been made with the transportation technique which caused overestimation of the standard, and comparisons with long rods had been made with the figure-construction technique, which

caused underestimation of the standard. Therefore, P. concluded, Tampieri's results were perfectly compatible with centration-decentration theory.

It would have been easy to discuss Piaget interpretation of Tampieri's results, opposing arguments to arguments. But facts being better than discussions we answered with what seemed us to be crucial experiments.

If according to Piaget underestimation of the standard in comparisons done with long rods was due to the use of the figure construction technique, making impossible the use of this technique, and therefore forcing subjects to use the transportation technique should change underestimation to overestimation.

The way to avoid figure-construction technique was very simple: comparing sizes of horizontal instead of vertical rods rendered impossible figure-construction.

The horizontal rods were presented by another pupil of mine, Dr. Altichieri in two different ways, either collinearly

or at right angle to the direction of looking.

Results were in both cases an unequivocal confirmation of previous experimental results: overrating of the standard with short rods and untarring of the standard with long rods.

A last possibility had to be excluded: that for reasons subjects had "transported" the standard comparing short rods, and the variable comparing long ones. In this case centration theory could explain results. Therefore a third experimenter, Dr. Brasco repeated the experiments with a substantial change: first was always presented the standard alone for 5" and immediately after the variable alone. So subjects could only transport the standard. And results were confirmed.

Having been asked to talk generally about the research going on in our Department, I am a little worried about the way I have to choose to fulfill my task. But between two risks, to be thorough but boring, or to give only a partial and biased idea but hoping to be able to arouse some interest, I prefer the second one.

First of all an historical introduction. The laboratory of Psychology (or Institute of Experimental Psychology) of Padova University is one of the four oldest of my country. It was founded, after the first world war by Vittorio Benussi, who was formerly at the University of Graz (Austria) and already had as he came to Padova, when he was only 40 years old an international reputation as an exp. Psychologist, as appears also from Boring's judgment in his History of experimental Psychology. Benussi died at the age of 49 years in 1927 when I was an undergraduate and had not yet been interested by Psychology. His successor was Professor Musatti who was my teacher and whom I have followed in the chair of Psychology and the direction of the Institute. In the time of Benussi, Musatti and also of myself as I followed Musatti in the direction of the Institute, there were neither assistants (except voluntary ones, that is unpaid) nor technicians. For many years I could only come to the laboratory in the afternoons after having taught at the secondary school. At present the pioneering

period is over and forgotten. Our staff is regularly paid and numbers about twelve persons plus part-time collaborators, technicians and clerks.

As for research our first field - directly inherited from the founder of the Laboratory, Benussi, whose discovery of tactual apparent movement and experiments on time perception are among the classics in this field - has always been visual perception. Almost every member of the department has worked in this field, but later on several of them became interested in other topics. Some years ago we had a second chair in Psychology, which has been devoted to Developmental Psychology (Child and Adolescence) which after some years gave rise to an Institute of Developmental Psychology, directed by my friend Professor Petter, Developmental Psychology having become the second field of research of our group. Subsequently the need to diminish if not eliminate improvisation in professional Psychologists, suggested that we should found a School of specialization in Industrial Psychology and Vocational Guidance; our next aim in this field is to be able to prepare clinical psychologists also. So applied Psychology has also become a field of research. Other directions of research have been developed by members of the staff who have worked for some years in foreign laboratories: Social psychology and especially Psycholinguistics by

Dr. Flores d'Arcais who has been one year at Urbana and one year at Harvard, and Animal Behavior by Dr. Zanforlin who has earned his Ph. D. in Animal Behavior at the Department of Zoology of the University of Edinburgh.

To avoid the bore of an arid inventory of researches I prefer to choose some which I judge typical of our way of seeing problems.

I begin with an experiment by Professor Bozzi, which I find particularly interesting for historical reasons because it throws light on the reasons why some of the discoveries of Galilei were so difficult for contemporary scientists to accept.

It is well known that judgments as "quick" or "slow" referred to a movement, while devoid of meaning from the point of view of the physicist, are meaningful and open interesting problems to psychologists.

Professor Bozzi asked his subjects to judge the speed of a pendulum. He used an apparatus by which the period of a pendulum could be varied between wide limits: subjects were subjected to series of experiments with the pendulum moving at different speeds, and were asked if the pendulum was moving fast, slow, or neither fast nor slow. In this case judgments about speed acquired a special meaning. By "neither fast nor slow" or "natural" movement, subjects meant that the pendulum moved as it would have moved if let to oscillate freely, while a movement judged "fast" gave the impression that the period of the oscillations had been speeded, forced by the action of a mechanism; and a movement judged slow gave the impression of being braked, restrained, as if motion took place in a viscous medium.

The first experimental result was that, besides individual variation, the speed of oscillations judged "natural" did not correspond to the speed obtained by letting the same pendulum swing freely. One of the pendulums used was a metallic rod 40 cm. long - if oscillating freely, it made 56 complete oscillations a minute, while the mid value for "neither fast nor slow" oscillations was for the average of the subjects 40 oscillations a minute. The pendulum swinging at its natural speed was judged as speeded by all subjects.

The experiment went on by varying the amplitude of oscillations. As everyone has learned at secondary school, the period of a pendulum is independent from the amplitude of oscillations. But as my colleague Bozzi modified the amplitude of oscillations of his pendulum from 10° to 60° , the results were quite different: frequencies defined by subjects as "natural" became lower. Galilei's law of a pendulum's isocronism doesn't hold for the phenomenal world: increasing the amplitude of oscillations, the rhythm, which is perceived as "natural", becomes slower.

From Galilei's and contemporary aristotelian philosophers' works, it appears that the law of a pendulum's isocronism has aroused much perplexity and has been judged "impossible" by the aristote-

lian scientist Guidobaldo dal Monte. From Bozzi's research this difficulty of accepting a pendulum's isocronism seems to depend at least partially on the rivalry between physical laws and laws which rule the perceptual world.

Bozzi has gone further in this direction, and has studied from the same point of view the perception of free fall movement. Since it is impossible to study this phenomenon directly (the event being too short to allow a good differentiation of impressions) it was necessary to resort - as, for different reasons Galilei did - to movement on tilted planes.

By using Michotte's technique it has been easy to imitate different sorts of movements (more or less fast, accelerated or constant) of a square on a tilted plane. And the judgements were quite similar to those given for the pendulum movement: too speedy (as if due to a push), too slow (as if slowed by friction), neither too slow nor too speedy.

Results were quite interesting. First of all, a natural movement is, for the majority of subjects, accelerated till it reaches a certain speed, and then constant. And varying the size of the square moving on the tilted plane, Bozzi found that the natural speed grows with the size of the object gliding on the tilted plane.

Both results show that also in this field perception does not follow physical laws; and also here it results that laws of aristotelian physics were a surprisingly exact reproduction of laws of the phenomenal world.

Simplicius, the commentator of Aristotle speaks of the acceleration which is necessary to bring a falling body from rest to what is its "natural" speed; and maintains that bodies of the same matter and different size fall with a speed which is proportional to their size.

In the study of Animal behavior we have the privilege of having the collaboration of an Hungarian Psychologist Professor Kardos, who after having acquired an international reputation with his experimental work in visual perception - he has been working in the U.S., for many years - for the last 20 years or so, he has been devoting all his efforts to the study of animal behavior. Professor Kardos with an assistant of our Laboratory carried out a very interesting plan of research.

The aim of the research was to analyse the part due to the visual and to the vestibular apparatus in locomotor learning of the rat.

The apparatus used for the research was a common labyrinth with four crossroads. The plan of the experiment included three experimental groups and a control group. The animals of the control group had to run through the labyrinth one at a time once a day, after 24th of food and water deprivation, being fed at the end of run; and this went on till they reached a criterium of 4 faultless runs; for the other groups the learning period (which was identical with that of the control group) was preceded by a pre-learning period. The first experimental group was carried through the labyrinth in an open truck, and fed in the food box at

the end of the journey; the second experimental group had the same treatment as the first, with the difference that the truck was closed and the rat could not see the way be passed through, but had only "vestibular information". The third group was put in the open truck, which remained motionless, while the labyrinth moved in such a way that the motionless rat, passed along the road (or more exactly saw the road pass) like the animals of the other experimental groups, that is from the starting point to the food box, where the animal was fed as usual. This group then had only visual information and no vestibular information.

Every animal had forty of these pre-learning truck-transfer-units. The pre-learning experience was expected to cause differences in the learning period: the more efficient the pre-learning experience, the briefer the learning period and the lesser the number of faults. In fact the first experimental group, who had visual and vestibular pre-learning (having travelled through the labyrinth on an open truck) had a shorter learning period than the control group; and the same happened for the second experimental group (who had only vestibular pre-learning, having travelled on a closed truck and therefore not having seen the way). This group gave a result which was better than that of the former, but the difference between the learning periods of the two groups was

not statistically significant. However it seems that, at least for the albino rat, visual experience under these conditions is, was, if not a hindrance, at least of negligible importance compared with vestibular experience; a result not conflicting with what was already known.

But the results of the last experimental group reserved a surprise. The pre-learning experience of this group, who travelled through the labyrinth while being in a motionless-truck, was the contrary of that of the preceeding group, namely visual and not vestibular, as in this case the vestibular organ was not stimulated. And as the truck with the animal was deep inside the corridor of the labyrinth and the animal did not see anything outside it, conditions were such as to give rise to the perception of subjective movement: the animals of this group were expected to have the same visual experience as the animals of the second group, that is to travel through the labyrinth.

But the result was not as expected. While the other two experimental groups showed, through the shortening of the learning period, that they had learned during the pre-learning period, the third group not only did not show any advantage, but proved to be hindered by the prelearning experience in its learning of the labyrinth. In fact, while the control group reached the criterium af-

ter an average of 15 runs first experimental group reached the criterium after 11 runs, the second after runs, and the control group after 10 runs, the third experimental group was not even able to reach the criterium after 28 runs and after that the experiment was abandoned, because the majority of the animals of this group, with their erratic behavior did not show any progress from run to run. The result appeared to be so strange that we resolved to repeat the experiment, with a more refined apparatus, where the movement of the labyrinth was obtained mechanically and was uniform and without any irregularity or shock. But the result was completely confirmed.

How can this result be interpreted? What happened, that hindered the animals in learning? Professor Kardos and I gave two different hypothetical explanations. According to Professor Kardos the result of the experiment showed that rats did not perceive subjective movement. Seeing therefore things moving against them, namely the alley moving while they were at rest and having this disturbing experience forty times, caused a complete disorientation and was therefore a hindrance to learning. I did not share Professor Kardos's idea about the lack of subjective movement in animals - the discussion involved his biological functionalism

and my gestalt-orientated principles - and therefore I offered another explanation: the rivalry between vestibular and visual information caused a feeling of uneasiness, a sort of bodily discomfort in the animals, and this feeling, associated through repetition with the place where the pre-learning took place, that is the labyrinth would hinder learning.

The hypothesis of absence of subjective movement in rats can be tested. Rats can learn to react to perceived movement and then be tested if they react to conditions which generate the perception of subjective movement in man. The experiment is going on, at our Institute.

A group of experiments done at our Laboratory concerns the centration-decentration theory, which represents the theoretical basis of a series of experimental investigations on perceptual mechanisms, done by Piaget and his collaborators.

The subject of one of the first experimental investigations in perception by Piaget and Lambercier is the problem of the "measuring" and the "measured" in the comparison of sizes.

The task was to compare vertical metal rods two at a time. The standard, whose size was 10 cm. remained in its place on a table at the subject's eye-level during the whole experimental series and had to be compared successively with 17 rods whose size varied by steps from 7 to 13 cm., which were put one after the other on the same table. The subject had to judge if the variable was greater, equal or smaller than the standard. Five series of comparisons were made, with five different distances between standard and variable: 3 mm., 25 mm., 1, 2 and 3 meters. The subject's distance from the table, where the rods were placed, was 1 m..

Piaget and Lambercier worked with different age groups, from children to adults. With adults the results were as follows.

With short inter rod distances (up to 1 m.) subjects underestimated the standard, while they overestimated it when the distance between rods was 2 m. or more.

Piaget and Lambercier's explanation of results was as follows. Subjects are using two different techniques of comparison. With short distances between rods they construct an ideal figure, joining the tops of the rods, while with longer distances, since they cannot use this technique, subjects "transport" ideally one segment on the other. The effect of these different comparison techniques on the results was explained by applying Piaget's centration-decentration theory.

According to this theory the part of the visual field which is fixed by the subject is automatically enlarged (centration process); but this overestimation is compensated by fixing another part of the visual field (decentration process). Comparison of two figures is done through alternative fixation of either figure; but if one of them is fixated more frequently and for longer time, compensation is only partial, and the more fixated figure will be overestimated.

Using the technique of figure-construction, it is the variable, which is less known, that is fixated more often and for a

longer time, and therefore the variable is overestimated and-expressing results in terms of the standard-the standard is underestimated. Using the transportation technique, it is the standard, which is better known, that is transported, and therefore fixated for a longer time and more intensively by most subjects, and then overestimated.

Reading Piaget and Lambercier's paper, I was by no means convinced by their interpretation based on the centration-decentration theory, and I thought that, since it was a question of successive comparison, transformations of memory traces could be responsible for the results. To test this hypothesis I proposed to Dr. Tampieri, my former assistant, to resume and develop further Piaget and Lambercier's research.

Besides repeating exactly P. and L.'s experiment Dr. Tampieri added two other series, which differed from the basic one only in the size of rods. While in the series which repeated P. and L.'s experiment, the standard was 10 cm. long, the standards of the new series were respectively 5 cm. and 50 cm. The reason for these

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new series was that if the effect observed by P. and L. (which can be described as "overestimation of the measuring instrument")

was due to memory trace transformation, the tendency of transformation would be in adverse direction for "long rods" and "short rods", according to the central tendency.

Tampieri's results supported clearly his hypothesis. First of all, the results of P. and L. - that is underestimation of the standard for short distances and overestimation of the standard for long distances-were not confirmed by Tampieri's results; but, according to our expectations in the series with "short rods" the standard was overestimated by most subjects, while the contrary happened in the series with "long rods", that is, the great majority of subjects underestimated the standard. Therefore Tampieri concluded by stating that his results were incompatible with P. and L.'s theory.

Piaget reacted with a critical paper, maintaining that Tampieri's results were in agreement with his theory, because the greatest distance between rods at which figure-construction technique was yet used varied with the size of rods. Therefore, if with the fundamental series (where the standard was 10 cm.) the greatest inter-rod

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distance at which the figure-construction technique was used, was 1 meter (and at greater distances the transportation technique was

used), the greatest inter-rod distance for figure-construction becomes 50 cm. for the "short rods series" (where standard was 5 cm.) and 5 meters for the "long rods series" (where the standard was 50 cm.). And Tampieri having used the same five inter-rod distances for all series, the majority of comparisons with short rods had been made with the transportation technique which caused overestimation of the standard, and all comparisons with long rods had been made with the figure-construction technique, which caused underestimation of the standard. Therefore, concluded P., Tampieri's results were perfectly compatible with the centration-decentration theory.

It would have been easy to discuss Piaget's interpretation of Tampieri's results, opposing argument to argument. But facts being better than discussions we answered with what seemed to us to be crucial experiments.

If according to Piaget, underestimation of the standard in

comparisons done with long rods was due to the use of the figure construction technique, than making impossible the use of this technique, and therefore forcing subjects to use the transportation technique, should change underestimation to overestimation with the long rods series.

The way to avoid figure-construction technique was very simple: comparing sizes of horizontal instead of vertical rods rendered impossible figure-construction.

The horizontal rods were presented by another pupil of mine, Dr. Altichieri in two different ways, either co-linearly or at right angles to the direction of looking.

(slide)

Results were in both cases an unequivocal confirmation of our previous experimental results: overrating of the standard with short rods and underrating and not overrating of the standard with long rods.

A last possibility had to be excluded: that for unknown reasons subjects had "transported" the standard comparing short rods,

and the variable comparing long ones. In this case centration theory could explain results. Therefore a third experimenter, Dr. Brasco repeated the experiments with a substantial change: first the standard alone was always presented for 5" and immediately after the variable alone. So subjects could only transport the standard. And results were confirmed.

$$p = (686)(.86) + (314)($$

Chers collègues,

J'ai pensé que dans ce rencontre il soit utile de nous échanger des informations sur les ^{champs de} recherches que nous culti-
vons, en vue d'une éventuelle collaboration. ~~En nous entre-~~
~~tenant mutuellement tout les mêmes, un échange d'informations~~
~~plus spécifiques et des retours entre spécialistes pourront~~
~~être fructueux.~~

Une courte préface sera peut-être utile pour
comprendre les conditions de la recherche psychologique en
Italie.

La presque totalité des recherches de Psychologie veni-
ticienne a lieu, en Italie, dans les laboratoires attachés
aux chaires de Psychologie aux Universités: la seule excep-
tion est l'Institut National de Psychologie du Conseil
National de la Recherche, - un laboratoire de recherche
qui ~~compte~~ ^{compte} riche en chercheurs qualifiés, qui développe
au même temps ^{la recherche individuelle et} une activité de collaboration avec les
et consultation ^{régulière} ~~avec les~~ forces armées et pour l'armée
la marine et l'aviation militaire et autres activités
sous l'intérêt de l'état.

Dans les Universités la psychologie n'a pas encore
malheureusement, la position l'importante qui lui
compète; pour le moment, en attendant une réforme
de l'enseignement public, où un curriculum spécial
pour les candidats psychologues sera certainement
institué, on enseigne Psychologie dans les Facultés de
Philosophie, ^{et} Pédagogie, dans quelques Facultés de Médecine
(de sociologie, de sciences politiques)

et exceptionnellement dans quelques Facultés de
Sciences biolo~~giques~~ naturelles et de Sciences économiques.
Il y a maintenant, si je ne me trompe pas, 18 chaires, ce
qui est beaucoup, si l'on compare la situation ac-
tuelle à aux temps du régime fasciste où il y avait ^{seulement} une
chaire, seulement, dont une, celle du Père Agnelli, n'appartenait pas à une Université d'État.

En général, à chaque chaire est attaché un Institut
ou laboratoire ~~fluent~~ ^{dirigé par} ~~notre~~ ^{le} professeur titulaire
de la chaire. ~~et dirigé par~~ ^{budget}. Le ~~budget~~ des laboratoires est
en général assez maigre, au moins ^{quand} ~~la~~ l'Institut et
la chaire appartiennent aux facultés humanistiques qui
ne se rendent pas compte des nécessités d'un Institut
expérimental. Mais ^{depuis} ~~il y a~~ quelques années les projets
de recherches peuvent être obtenus des interventions
assez considérables par le C.N.R.

L'Institut de Psychologie expérimentale de l'Univer-
sité de Padoue, que j'ai l'honneur de diriger ^{depuis} ~~depuis~~ 25
années, est attaché à la Faculté de Pédagogie. Nous sommes
~~sur~~ Il y a deux chaires de psychologie dans cette même Fa-
culté, ~~la première, qui est à dire~~ ~~fonctionnaire de Psychologie,~~
~~qui est~~ la même, et une chaire de Psychologie de l'enfant,
dont mon collègue le Prof. Petter est titulaire. Récemment
nous avons obtenu l'installation d'un Institut de Psychologie
de l'enfant, dirigé par le prof. Petter, mais ~~en~~ pratiquement

ou fonctionne comme un seul Institut, avec une seule Biblio-
thèque, une seule cuisine, un seul service de réception et de
bibliographie, calcul et dessin. Nous sommes deux professeurs
ordinaires, ~~trois~~ ^{quatre} chargés de cours, qui enseignent Psychologie
pour la Faculté de Philosophie, Méthodologie psychométrique ^{psychologie sociale} et
Psychologie appliquée, ~~deux~~ ^{trois} assistants, quatre boursiers avec
fonctions d'assistants, quelques assistants volontaires, qui
~~se sont~~ sont rémunérés pour ~~prêter~~ ^{réaliser} leur activité
pour ~~un~~ ^{une} activité limitée. Les personnes
sont chargées et comme dans toutes les Universités
les ^{collaborateurs} ~~personnel~~ de l'Institut ~~consacrent~~ ^{dévouent} à la recherche
le peu de temps qui leur reste après avoir achevé leurs
~~travaux~~ ^{activités} scolaires (leçons, exercices pratiques, examens).
Il faut ajouter que beaucoup de leur temps est absor-
bé par l'école de Spécialisation en Psychologie où
peuvent s'inscrire (après l'Université avoir achevé
leurs études universitaires) ceux qui aspirent à servir
Psychologues ^{pratiques} ~~pratiques~~. L'école donne le titre de Spécial-
liste en Psychologie, ce qui permet de s'inscrire comme
membre effectif dans la Société Italienne de Psychologie
scientifique.

~~Les~~ ^{principaux} ~~champs~~ de recherche cultivés par les
membres de l'Institut de Ps de Pt sont les suivants
la perception, la Psychologie sociale, ~~et~~ ^{en particulier} la
Psycholinguistique et la Psychologie animale.

(La Psychologie de l'Enfant)

Je vais vous présenter ici un échantillon de nos
recherches, pour vous faire connaître à peu près nos
intérêts dans ce champ.

La perception et la perception visuelle en particulier
est un champ de recherche qui est cultivé ou a été
cultivé par presque tous les membres de ^{notre} l'Institut. C'est dans
mon propre champ de recherche (auquel je consacre le peu
de temps qui me reste après avoir accompli mes devoirs
didactiques et administratifs) ^(Je présente ici un échantillon de nos recherches, qui peut être considérée comme une série de nos intérêts dans ce champ) et j'étudie les conditions dans lesquelles

Il y a longtemps j'ai mis en évidence ^{et étudié expérimentalement un} phénomène ^{particulier, pour} de
repos apparent, qui peut représenter la et un phénomène
de totalisation cyclique qui se présente en connexion avec
le repos apparent. Incidemment j'avec mon collègue
le prof. Raimosa, Directeur de l'Inst. de Ps. de l'Université de
Trieste, et avec M^{me} Passi, chargée de cours à Padoue, nous avons
et mis en relief et étudié un effet causal d'attraction
~~et d'interférences~~ ^{et nous avons} l'interprétation ~~laquelle~~ nous a débarrassé
et poleme en d'intéressantes discussions avec Michotte.
Récemment j'ai consacré mon activité scientifique
à l'étude du phénomène de transparence, dont j'ai
étudié expérimentalement les conditions et théo-
riquement en essayant d'en déduire algébriquement
les conditions chromatiques.

^{très intéressante} Une recherche est due à mon collègue le prof. Petter
qui a pu préciser les conditions déterminant la quelle
de deux figures ambiguës sera perçue ou devant ~~de~~
l'autre.

Une série de recherches a été conduite pour

mettre à l'épreuve une théorie de Piaget expliquant
les erreurs systématiques qu'on commet dans la cor-
^{raison} ~~relation~~ ~~successive~~ de la longueur de tiges; travaux
qui ont suscité une ^{intéressante} ~~réponse~~ polémique ~~de~~ M. Piaget.

Des recherches sur la perception du mouvement
du pendule, et du mouvement sur ~~le~~ un plan incliné
ont été données à M. Borri chargé de cours à la Faculté de Lettres
ont donné des résultats très intéressants, qui permettent
de ~~se~~ comprendre certains aspects de la polémique
des Aristotéliens avec Galilée sur ces mêmes sujets.

Récemment on a commencé une collaboration
fructueuse avec le prof. Metzger de l'Université de
Münster, avec lequel on a initié ^{une} ~~des~~ recherches
sur la perception visuelle dans une cabine rotante,
où l'on a une perception visuelle du mouvement qui est
paradoxalement, puisque il n'y a ^{aucun} ~~aucun~~ mouvement
de la cabine par rapport au sujet; ^{en effet le sujet} ~~qui~~ est dans la
cabine participe globalement à son mouvement. ^{Tout} ~~et~~
pour avec M. Metzger on a fait
une recherche sur une forme particulière d'after
effect. Je crois ~~aussi~~ que cet échantillon peut donner
l'idée du type de ^{des} recherches sur la perception visuelle
qu'on conduit dans notre Institut.

Des recherches de perception musicale ont été
~~conduites~~ sont conduites par un groupe dirigé par le
prof. Borri qui est, dans ses loisirs ~~aussi~~ un musicien
d'un certain niveau. On a étudié l'application des
lois de Wertheimer dans la musique, la transformation et
l'on est en train d'étudier ^{les} ~~les~~ ^{l'organisation} de figure et son, ^{semblant}

conditions déterminant

le problème de ce particulier système de référence
qui est la tonalité dans la quelle ~~est~~ une phrase unifi-
cale est perçue, et ~~le problème des conditions~~ ^{les lois} qui déterminent
la transformation des phrases unificales dans la mémoire.

Prof. Fl. d'He, ces recherches sont reprises par
Changé de cours à l'Université de Montréal, abréviation

Pour ce qui regarde la Psychologie sociale, on a ^{groupes} un ^{projet}
de recherches ^{qui sont} en partie déjà publiées ou en cours sous
presse, sur le problème des stéréotypes: ~~le problème des stéré-~~ ^{une étude}
types des Italiens du nord et du sud, c'est à dire l'image
que l'Italien du nord a de soi-même, ^{l'image qu'il a} et de l'Italien du sud,
et l'image de soi-même qu'il attribue à l'Italien du sud;
et les trois ~~mêmes~~ images stéréotypiques perçues par
l'Italien. ~~(c'est du sud)~~ (c'est à dire anti-, et un stéréotype est it. prof)
Une étude sur les images stéréotypiques perçues par
les membres de différents partis politiques et l'évolu-
tion de ces images ^{dans la période de 5 années, c'est à dire} entre deux élections politiques. Enfin
une étude sur les concepts de jeune et vieux
perçus par un échantillon d'étudiants et un échantillon
de personnes ^{âgées} ~~agées~~ ^{anciennes}, ces études ont été dirigées
~~par nous~~ enfin une étude sur l'influence que les stéréo-
types professionnels (c'est à dire le fait d'être informé
sur la profession d'une personne) exercent sur la formation
de l'impression de personnalité. Ces études ont été con-
duites ~~avec~~ en utilisant la technique du différentiel
lémanistique et l'analyse factorielle. L'intérêt des résultats
obtenus est en particulier au fait qu'avec ces techniques on
a pu faire un sondage indirect des opinions, sans interroger direc-
tément les sujets comme l'on fait ~~avec~~ lorsque on se sert de ques-
tionnaires. ^{on a aussi initié des études} ~~on a aussi initié des études~~ ^{on a aussi initié des études}

✓ La technique du ^{rapport entre le} ~~no~~ différentiel rémanent, est prévue par le plan.

~~Je me borne à~~ Plusieurs autres études de Psychologie sociale ~~et~~ actuellement les études de Ps. sociale intéressent beaucoup les membres de ^{notre} l'institut : nombreux projets de recherche regardent la Psycholinguistique et plusieurs ^{ou} recherches publiées regardent la Ps. sociale de l'enfant. ~~Je me borne à~~ Deux ~~d'entre elles~~ une recherche me semblent ~~avoir~~ présenter un intérêt qui dépasse le champ étroit de spécialité : une recherche sur le ^{rapport entre le} niveau intellectuel des écoliers ~~dans les villes et la gran-~~
~~deur de~~ ~~ce~~ nombre de la population de la ville ou du village où ils résident, recherche qui a été répétée après 18 ans - pendant lesquels les moyens de commu-
cation avaient transformé radicalement la vie dans les villages. Une autre ^{étude} recherche, faite avec la technique du cinéma parlant, ~~porte sur~~ le problème de la relation entre ^{expression} relation verbale et mimique : ~~à~~ les mêmes scènes étant présentées à ~~deux groupes de sujets~~, à un groupe de sujets deux groupes de sujets avec deux contenus verbaux opposés, p. ex la même scène représentant un maître professeur qui parle à un élève, mais ^{dans le premier cas} les mots qu'il prononce sont une louange, ^{enthousiaste, tandis que} ~~une~~ ^{ils sont} dans le second, un très sévère reproche ; ^{mais} dans l'un des deux cas seulement ces mots correspondent à l'expression et à la mimique de l'acteur.

L'intérêt pour le comportement animal s'est
développé beaucoup dans les dernières années. C'est
un champ de recherche que j'^{aurais} ~~avant~~ toujours aimé ~~en~~ voir
cultivé dans notre Institut, mais ^{réellement} ~~seulement~~ ^{il} ~~se~~ sont pré-
sentées des occasions favorables. En premier lieu
on a pu établir une collaboration constante avec
un ~~ancien scientifique~~ ^{scientifique} hongrois, le Professeur Kardos, Di-
recteur de l'Institut de Psychologie de l'Université de
Budapest, dont je connaissais l'œuvre classique
sur le thème de Perception visuelle (Ding und Schatten),
qui en rentrant à Budapest il y a une trentaine
d'années, après des très longues séjours à Vienne et en
Amérique, ^{le prof. Kardos} ~~et~~ ^{de bon} avait ~~conservé~~ toute son activité
intellectuelle à la Psychologie animale. Avec M. Kar-
dos deux entreprises collaboratives on fait des très
intéressantes recherches sur la perception et sur
~~les~~ l'apprentissage des trajets ^{par les} rats dans les
labyrinthes. L'autre occasion favorable a été la
spécialisation en Psychologie animale (ou peut-
être en écologie - la distinction ne me paraît pas essen-
tielle) d'un assistant, le D^r ^{français} Zupnik, lequel ayant com-
mencé par une recherche sur l'inhibition du photo-
tropisme dans la larve de mouche, ^{recherche qu'il} ~~avait~~ ^{par la suite} obtenu
un fellowship dans l'Institut Zoologique de l'Univer-
sité d'Edimbourg y préparant sa Thèse de Ph D ~~en~~
travailler pour deux années dans un milieu spécialisé
sur les recherches sur le comportement animal

Psychologie animale. D'autres recherches avaient
été conduites dans le champ du comportement animal
il y a plusieurs années, mais dans le but de contri-
buer à la solution d'un problème de Psychologie gé-
nérale.

Un cours de ces recherches sur le comportement
des insectes M. Zanforlin a eu l'occasion d'étudier
un problème très intéressant. Qu'est-ce qu'un insecte, pour
une larve de mouche "ouvert" ou "fermé"? Si
une larve ~~de mouche~~ se trouve, au moment de sa me-
tamorphose, dans un tube ~~de terre~~ qui est ouvert à une
extrémité et fermé à l'autre, la position qu'elle prend
au moment de sa métamorphose est telle que l'in-
secte que sortira de la chrysalide se trouvera
dirigé vers l'ouverture du tube. Si le tube
est fermé de tous les deux extrémités, la larve retarde
sa métamorphose de deux ou trois jours. Le comporte-
ment des larves, retardant leur métamorphose ou
ne la retardant pas, permettant d'établir, pour ainsi dire,
dans quelles conditions un ambient est perçu comme ouvert
ou comme fermé. Par exemple un tube fermé aux extrémités
mais long de trois mètres, est-il ~~toujours~~ tout de même
perçu comme fermé? La recherche a démontré qu'il y
a des limites, qui dépendent à leur fois de l'extension
de l'ambient dans les trois dimensions, c'est à dire
qu'un ambient ~~close~~ tube fermé doit être très long pour
être perçu comme ouvert par les larves, s'il est très étroit; mais
le même effet est obtenu par un tube main long, mais plus
large ou par une boîte qui n'est pas longue, mais ~~composée~~
sans aucune de ces limites par sa largeur et sa hauteur.

sur le comportement animal

D'autres recherches ont été faites, mais dans le but de contribuer à éclaircir un problème de psychologie générale, c'est à dire le problème de la constance des objets.

Le fait ^{de cet}, bien connu, que nous percevons les objets avec des caractéristiques ^{relativement} constantes, - nous présentons une personne comme ayant une grandeur égale, soit que sa distance de elle se trouve à une distance de 2 ou de 4 mètres ^{par rapport à nous}, tandis que la grandeur de l'image rétinienne est, dans le premier cas quatre fois plus grande que dans le second. La polémique entre les empiristes, qui attribuent ce fait à une forme d'apprentissage et les nativistes qui l'attribuent au fonctionnement des processus perceptifs ~~trou~~ n'est pas résolue si l'on pouvait être renseignés sur la perception à la naissance, c'est à dire avant que un processus d'apprentissage puisse avoir lieu. Les expériences ^{nous ont permis} ont alors expérimenté avec des larves de papillons (les Lymantria, bien connues en génétique) qui ont un comportement typique immédiatement après l'éclosion de l'oeuf, c'est à dire qu'elles tendent à grimper, et choisissent entre deux tiges la plus haute, et entre deux tiges de dimensions égales celle qui est plus claire.

(mais peintes en gris de tonalité différente)

Étant impossible entrer dans le détail des résultats qui ont nécessité une élaboration statistique, étant fait puisque plusieurs dizaines de milliers de sujets ont été utilisés pour ces expériences, je me borne à noter que les expériences semblent avoir montré que la constance de la couleur, c'est à dire la ^{réparation} ~~restauration~~ entre couleur de l'objet

et l'illumination semble ^{avoir lieu aussi} être présente dans la perception de ces animaux dépourvus d'expérience.

Pour ce qui regarde la psychologie de l'enfant c'est un champ de recherche dans lequel je n'ai aucune compétence; ^{de conséquence} ~~malheureusement~~ je ne serai pas capable de donner une idée adéquate de la richesse et l'originalité avec laquelle mon collègue, le prof. Piaget et son principal collaborateur le Dr Mowrer traitent les problèmes liés à leur ^{matière} ~~et d'ailleurs~~ ^{seulement}. J'espérerais au moins de donner quelques exemples des problèmes ou des recherches expérimentales qu'ils ont fait dans ce domaine.

Une recherche, que je trouve particulièrement intéressante et originale regarde le problème de la formation des concepts de représentativité statistique dans les enfants. ^{On para} le problème ^{aux enfants} est posé de la façon suivante: l'on présente à l'enfant un certain nombre de tiges de différentes longueurs (de 8 à 15 cm). ^{on lui explique} ~~on lui dit~~ ^{et puis on lui pose la question suivante:} de qu'elles serviront pour faire un jeu. ^{quelqu'un voudrait-il lui en envoyer pour} ~~est-il y a un enfant qui est malade et ne peut participer au jeu, et on pourrait lui en envoyer une~~ ^{lui donner l'idée du jeu, c'est à dire, de cartes types qui ont une longueur} ~~ou de ces types pour lui donner l'idée de ce jeu, la quel~~ ^{ou types employés?} ~~le (ou lesquelles) voudrais tu choisir?~~

Du moment où l'enfant est capable de comprendre la

Tâche, deux types de solutions typiquement mathématiques se présentent: l'enfant choisit ou une tige médiane, ou deux tiges, la plus petite et la plus grande du groupe.
Les adultes

D'autres recherches reprennent des problèmes de figures, qui sont liés au développement du langage. Par exemple: l'usage d'expressions agent un caractère "algébrique", comme "le plus grand, le plus petit, le moins grand, le moins petit, etc." l'expression "main" a la propriété quasi-algébrique d'inverser la signification de l'adjectif auquel elle s'ajoute.

Ou encore: ~~le~~ ^{l'objet} ~~Quel est~~ ^{un groupe d'objets} est jugé, par les enfants de différents âges, être "le plus différent" d'un objet donné? Si les objets sont: chien, cheval, éléphant, oiseau, poisson, homme, fleur, navire

et l'on demande lequel est plus différent d'une brebis (les objets sont ou ont été présentés à l'enfant) le plus grand nombre ^{de 4 et 6 ans} dira que le plus différent est le cheval, seulement un petit dit que c'est l'homme, et personne ne dira que c'est le navire ou la fleur.

Malgré toutes les recherches expérimentales, auxquelles
~~je n'ai~~ ~~longtemps~~ ~~la première place~~, il faut mention-
ner ~~une œuvre~~ ~~très~~ un livre de prof. Petter qui
a été très apprécié par les psychologues et le péda-
gogues, c'est à dire une synthèse des œuvres de Piaget
(22 volumes si je ne me trompe pas) sur le développe-
ment mental de l'enfant. Cette œuvre a été
traduite en allemand et publiée par la maison
Huber & de Bern. En plus M. Petter a exercé une
^{intense} activité psycho-pédagogique, et il a publié des
^{livres de} ~~textes~~ ^{travaux} pour l'enseignement dans les écoles élé-
mentaires, fondés sur la psychologie de l'enfant, et a
collaboré régulièrement à des revues journalières d'in-
formation ~~pour~~ pour les maîtres des écoles élé-
mentaires.

Ce sont les champs de recherches les plus importantes
auxquels se sont livrés les membres de notre In-
stitut. Mais on a travaillé aussi en Psychologie industrielle,
Psychologie médicale, Psychométrie (on l'a publié
des ~~livres de~~ ~~textes~~ manuels) Psychologie judiciaire (les man-
testaments)

Lo studio delle combinazioni delle disequazioni dedotte dalle due equazioni della trasparenza ci ha permesso dunque di giungere alle seguenti deduzioni.

L'ordine di ^{chiarezza} rango delle tonalità acromatiche delle quattro regioni ^{APQB} determina il ^{colore} range della tonalità acromatica dello strato trasparente. Il colore (cioè la tonalità acromatica) ^{neve} dello strato trasparente può essere a) più ^{chiaro} chiaro di tutte ^{le} quattro regioni (o di chiarezza pari alla più ^{chiaro} chiara); b) più ^{scuro} scuro di tutte le quattro regioni (o di chiarezza pari alla più scura); c) di chiarezza intermedia tra P e Q (o di chiarezza uguale a P o a Q). ^{più} chiaro di tutte le quattro regioni ~~(o di chiarezza pari alla più chiara)~~.

9. Passiamo ora all'esame di casi particolari che ci consentono

Le deduzioni suddette si possono verificare. Realizzandole: 5 ordini di rango di chiarezza ($A > B > P > Q$; $A > B > P > Q$; $A > P > Q > B$; $P > A > Q > B$; $P > Q > A > B$, e Figure ...) e attenendoci alle condizioni necessarie della trasparenza, messe in luce nei precedenti paragrafi, si ottengono i risultati previsti: in Fig. 1 lo strato trasparente è nero, più scuro delle 4 regioni, in Fig. 2 è grigio, di colore intermedio, e in Fig. 3 e 4 è bianco.

Seconda la maggior parte dei soggetti, soltanto Fig. 1 dà l'impressione di uno schermo trasparente, mentre nelle Fig. 2 si ha l'impressione di una macchia di luce, mentre nelle Fig. 3, 4 di un'ombra, quest'impressione non si annulla neppure contornando la zona "trasparente".

Sta il fatto che ^{uno} lo schermo parzialmente ^{trasparente} opaco, mentre assorbe una parte della luce riflessa dagli oggetti che stanno al di là, riflette esso stesso una parte della luce che lo colpisce, quindi il ^{probabile} valore di stimolazione delle zone dello schermo che coprono figure bianche o chiare ^è minore di quello delle figure, e il valore di stimolazione delle zone dello schermo antistanti figure nere o scure è maggiore di quello di tali figure. Quindi, considerando il caso $A \approx 1$, $B \approx 0$, cioè A molto chiaro e B molto scuro, mettendovi davanti uno schermo parzialmente trasparente si avrà P più ^{scuro} scuro di A, ma Q più ^{chiaro} chiaro di B.

$$T = \frac{P - dA}{1 - d}$$

Conseguente

$$\text{Se } d = 1$$

T indeterminato

Valore e limiti delle formule

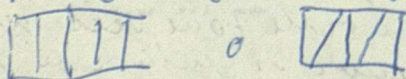
- a) la possibilità di trasparenza quando $A = B$
 - b) quando $|A - B| < |P - Q|$
 - c) la recessione fenomenica quando $A = P$
- In genere, a fronte di condizioni di campo?

ABCD. — p q r s

Il caso di Raffaele

La finestra

La condizione non-monotonica (problema che ha fermato la ricerca)



Il contorno?

di vedere o un oggetto bianco debolmente illuminato
o un oggetto nero fortemente illuminato

l'ombra-manchia di Hering

quale delle due percezioni è la più elementare,
quale la più complicata: la soluzione presenta
tanti per prima storica e l'interpretazione
ne a due stadi (percezione + giudizio) della percezione
naturale

manifestazioni dell'illuminazione intensità di
illuminazione e certi limiti del colore
dell'illuminazione non ~~hanno~~ non influen-
za essenzialmente sulla nostra percezione dei colori

Probl: come mai, se ciò provoca una trasformazione
della stimolazione

Helmholtz - illum. solare 80000 volte più forte della
più intensa illum. lunare (Wollaston). Allora
il velluto in luce solare sarebbe apparire di un bianco
accecante e la carta bianca alla luce solare di un nero
profondo.

dunque i colori son indipendenti dall'intensità

anche carta sotto microscopio percola appare bianca, bensì
riflette luce verde.

dunque anche da un cambiamento quantitativo della
illuminazione

sperimenti di confronto foppi - pariete p. 598
" " " 2 foppi a ritorta
roversa dalla finestra.

Quanto si riferisce fra colori e illuminazione

uso di tubi o schermi di riduzione per ottenere i rap-
porti fisici di intensità di raggi riflessi o
di qualità di colori. Possibilità di vedere in
rettamente queste relazioni "degradazioni del carattere
appetito di superficie di corpi a macchie di luce

contatto di rendimenti offerti: atteggiamenti "inferno"
nel senso della costanza e d'atteggiamento del pittore come
esclusi, tra i quali si localizzano atteggiamenti intenzionali
dipendenti sia dalle condizioni oggettive dell'esperimento
sia da importazioni. In certi casi si realizza la possibilità

A. Gellé - Die Farbenkonstant der Sehsucht

Il problema, Grandi cambiamenti di intensità di illuminazione, e entro certi limiti anche cambiamenti del colore dell'illuminazione non hanno influenza sostanziale sulla nostra visione dei colori, malgrado il cambiamento di illuminazione della retina.

Esempi tipici: 1. Voltando la retina alla finestra e tenendo in mano un pezzo di carta grigia neutra e confrontandola con la parete bianca di fronte, si ha conservazione dei due colori, benché la carta rifletta molto più luce della parete. Usando il fotometro di Bouguer, due catodi rivestiti di una carta bianca erano ben illuminati con la luce del cielo invernale uno speculari, l'altro con una piuma a pino o una lampadina elettrica; vedevano bene i colori e due superfici apparivano bruno. Ma togliendo le carte dalle apparecchiature e chiudendo le finestre, la carta bianca appariva ben malgrado l'illuminazione via la della



3. Scherm di riproduzione

4. Visione con imitazioni "ottiche"

La visione "ingenua" rivoltata agli oggetti e quella che si ottiene con lo schermo di riproduzione sono due estremi, fra i quali esistono forme intermedie in dipendenza delle condizioni ottiche e del comportamento del soggetto. E' ciò si deve tener conto nell'indagine sperimentale. Per piccole variazioni delle condizioni sperimentali o dell'alteppamento dei soggetti si possono ottenere risultati diversi da quelli osservati da altri sperimentatori.

Esempi tipici in cui si può avere due impressioni ugualmente "reali", di un oggetto bianco scarsamente illuminato o di un oggetto nero fortemente illuminato: quello che l'oggetto prende forma in bianchezza perde l'illuminazione in chiarezza e viceversa. Esempio tipico è l'esperimento della ombra reale - ombra di Hering. (v. Lichtsinn p. 8).

Nel caso della macchia-ombra non è chiaro quale delle due sia la soluzione "naturale". Sono semplicemente diverse fra loro.

Dopo un periodo di formazione all'Istituto di Psicologia dell'Università di Padova e un periodo di esperienza presso il Consiglio Nazionale delle Ricerche, ottenuta la libera docenza mi è stato affidato l'incarico dell'insegnamento della Psicologia a Padova dove, salvo un breve intervallo alla vittoria del concorso, ho svolto tutta la mia carriera.

Ho dedicato la mia attività allo sviluppo e al potenziamento dell'Istituto e alla formazione di allievi oltre che alla ricerca. L'Istituto, a cui, quando mi fu affidato l'incarico della direzione, faceva capo un unico insegnamento è diventato un centro di studi psicologici, insieme all'Istituto di Psicologia dell'età evolutiva, istituito successivamente, ed alla Scuola di specializzazione, creata per venire incontro alle richieste di formazione di professionisti psicologi. La biblioteca dell'Istituto, arricchita di collezioni complete di periodici scientifici viene consultata anche da studiosi di Istituti di Psicologia di altre Università. Quanto agli allievi, non solo siamo stati in grado di provvedere alle crescenti necessità di nuovi insegnamenti, ma possiamo ancora provvedere ai necessari sviluppi del neo istituito Corso di Laurea in Psicologia, mentre Istituti di Psicologia di altre Università trovano difficoltà a sopperire alle necessità di collaboratori ben preparati.

Nel 1964 sono stato eletto Presidente della Società Italiana di Psicologia Scientifica ed ho dovuto dedicarmi per due anni ai problemi dell'insegnamento della Psicologia, e dell'organizzazione della professione e della ricerca in Italia.

La mia produzione scientifica è specializzata, ed è nota perciò più all'estero che in Italia. Di conseguenza ho avuto occasione di stabilire rapporti di collaborazione con scienziati stranieri di fama internazionale e sono stato invitato frequentemente all'estero a prendere contatto con i rispettivi Istituti ed a tenervi relazioni scientifiche o seminari.

Dopo un primo periodo in cui sono maturate relazioni di collaborazione scientifica con le Università di Graz, Francoforte sul Meno, Münster e Budapest, e sono stato invitato a

tenere delle relazioni su mie ricerche in quelle Università, ho avuto occasione di fare un viaggio, sovvenzionato dalla Nato, negli Stati Uniti, dove ho tenuto dei seminari nelle Università di Harvard, Rockefeller, Yeshiva (New York), Rutgers (Newark), Princeton, Swathmore, Cornell (Ithaca), Colorado (Boulder), Wayne State (Detroit), Berkeley, Los Angeles. In conseguenza di questi primi contatti, sono stato invitato a tenere delle lezioni in qualità di Visiting Professor nelle Università di Cornell, Wayne State e Berkeley. Nel settembre scorso sono stato invitato a tenere dei seminari in Svezia, nelle Università di Göteborg e Uppsala, e quest'anno, nell'intervallo fra la fine delle lezioni e l'inizio degli esami dovrei recarmi a tenere delle relazioni sulle mie ricerche a Parigi, Leyda, Nimega e Copenhagen.

A parte gli inviti a partecipare con uno scritto ad opere che sono frutto di una collaborazione scientifica internazionale (il volume per il centenario della nascita di Christian von Ehrenfels - 1960 - e gli Studies in Perception, Essays in honor to J. Gibson, in corso di stampa) e i programmi di ricerca frutto della collaborazione scientifica, le relazioni con Università straniere famose hanno permesso ad alcuni assistenti dell'Istituto di ottenere Borse di Studio o aiuti finanziari per completare la loro preparazione con un soggiorno all'estero.

News hall L.M., Burnham R.W., Evans R.M.
(Eastman Kodak, Rochester)
Influence of shadow quality on color
appearance) Oct. 2. A. 1959 49 909-

Tateasahi H,

11 Chromatic changes induced by changes
in chromaticity of background of constant
lightness

J. opt. Soc. Am. 1962, 52(1) 93-

~~2~~

Judd D. B.

Land

~~Appraisal of Land's Work on Two-Primary
Color Projections~~

Jopt S. R. Vol 50, 1960 254-

269

Just D B

Colour in business name and industry

gc 495

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J 79

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Biology Library

→ K computer

MacLeod T. B.

An experimental investigation
of brightness constancy 1937

Educ.

102 p. Archives of Ps. 135

Ps.

Lib

1 parvum : rustman

Aristoteles B. 418
A. 2 P. 7

Über die Farben

Erläutert durch eine Übersicht der
Farblehre der alten, von D.
Karl Prantl, 1849

Bart Ruit

Die Farblehre Van Gogh's

Gogh - Color

W. von Bezold 1838-1907

The Theory of color in its
relation to art and art-industry
Boston 1876

Birren Faber

A grammar of color; a basic
treatise on the color system of
Munsell

ENC QC 495
B 515

Environment design
Library

~~#477~~ Christine Ladd Franklin
Colour and Colour Theories

Biology
Library

Harcourt etc 1929

Graves M. E.
from Colour fundamentals
Library McGraw 1952

Henneman R. H.

Ed. A photometric study of the
Psych perception of object color
Libr. 1935

Hickethier A.

QC Color mixing by numbers
495 V. North. 1970

#472

Enviro design Libr.

Jacobson Eberst

An interpretation of Ostwald's
Colour system

Engineering
Libr.

1948

Uso an. fatti.

Soc. psych. (social Psychology?)

utilità. Difficoltà

Punti controversi An. fatti,

Uso mitati quant. nella percezione

Vicini: acuità visiva dinamica
(capacità di percepire piccoli spostamenti
spaziali in una figura che si sposta in
rapporto all'osservatore).

ombre colorate = macchie?
(in quanto colorate perdono il
carattere d'ombra?)

re word, Phenomenographic word, increase-decrease, decrease, suggest, theatrical performances

V. Benussi's research on Hypnosis and Suggestibility

Boring - History

" Scatulation and Perc. in the History of P.S.

The Gualther's sympt. of lie

Book Report congress (50 minutes)
Paper in German
Perception P.S.

Benussi coming to Padova. International renown
Suggest Hypnosis as tools for Psychological research

Isolabilisation, isolation, suppression of functions

Factorial Conception of suggestibility and hypnosis:

- a) special phenomena b) sugg = ^{ability} capacity to transform the mental presence of an idea into its perceptual presence. (square - post). c) suggestio-relatio ^{vivid} hypnotic
d) hypnosis - all or nothing, no degrees e) special types of suggestibility
f) normal and pathological 1. : influence (arm rigidity $\rightarrow$ whole body rigidity;
 $\rightarrow$ rare $\rightarrow$ also other figures; hypnosis $\rightarrow$ normal night sleep)

Type of research done

I Reproduction of a series in inverse direction. Normal result. B² & inhibition
hypothesis. Reproduction, same speed.

II Pure emotional states. The problem. E. functions dependent from Intell. f.?

The experiment: inducing emotion by suggestion "you feel afraid".

Conditions to be met to give scientific value to the experiment

a) starting point - same for every exp. b) objective control c) precise description

B. Previous work of B. on objective control of emotional reactions. Hypothesis, use of Störrius $Q = \frac{1}{E}$

Not satisfied - looking for other characters of the breathing curve linked with special characters of emotion. Construction of a sort of outline - rectifying and ~~re~~ simplifying a breathing curve

(Observations $\rightarrow$ changes in the breathing curve with changing attitudes etc.)

Points connected with segments: beginning insp. - point corresp. to half duration of insp. etc.

A. Basic sleep. To have a constant starting point, B. gave S the suggestion what happened (at present more known - electroencephalography) Problem: existence of such a sleep. Reaction of the subject. Fainting? B. minded. Proof? Before, third condition

C. Description: how S has been able to follow the suggestion. B. had

comparison, gradual -

to resort to introspection. Special sorts: asking the hypnotized S. to describe what he felt. Comparison of descriptions given in hypnotic and in normal vigil state.

Experiment. Sequence: hypnosis, b. sleep, pure emotion, b. sleep, hypnosis, error. ^{After} ^{Reinf.}

- a) Basic sleep. Description: Pleasant feeling of perceiving himself live
no loss of consciousness, no gaps. Typical and constant outline of br. curve.
b) "when I give this when I give you this signal you'll develop a sense of
(joy, guilt, satisfaction etc) w. throat etc.

B. got data of about 50 emotional states. For every one, breathing outline
and introspective description.

c) Breathing outlines

x) following the transition from b. sleep to the "pure emotion"
~~not~~ abrupt change in a form of a deep breath, perceived as a sigh.
Then the breathing curve of the emotion, and again the deep
breath before the typical outline of the b. sleep.

(3) The breath outline of every ^{pure} emotional state was ~~very~~ ^{on time} con-
stant: there was no reason to calculate an average shape
(as necessary for vigil state, hypnotic state, normal night sleep).

f) ordering outlines according to similarity. S. b. King result:
~~order~~ resulting order also order of similarity ^{the corresponding} of emotional
states. By concave - By convex. Pleasant - unpleasant

d) ~~if~~ ^{rich} descriptions (depending on S. sophistication). Des-
cription also, sometimes, of initial difficulties (tendency
to look for concrete situations: Fight, looking for short term),

e) ~~if~~ ^{rich} Pseudo-intellectual states (doubt, uncertainty, denial, approval,
evidence. Denial of evidence - very interesting. B. went
to study the collection of descriptions (introspective) given by
monks, especially by S. Theria of Jerusalem, and showed step
by step, comparing the descriptions, that story and an ~~also~~
obtained state of pure evidence were the same. He also
noticed that what S. & Ther. called "prayer of quietness"

which she asserted being the best way of reaching extasy, corresponded to the retrospective description of basic sleep.

The most original and audacious experiment
Only mentioning some others

III) An experiment in visual perception. Effect of stimuli acting on the visual system but not perceived by the S.

10. An experiment in hypnotically induced amnesia. Reading a letter, order of forgetting - awakening. Verbal reaction test, according to Worth - Jung. Indifferent and critical verbal stimuli. Reactions to critical verbal stimuli clearly under influence of subconscious presence of the events S. forgot

V Experiments on pathogenic suggestions.

a) Take jacket off 10 min. after awakening, and forgetting what happened during hypnosis. Summary on S. restless shutting central heater app. -

Interesting - not having the support of the order, the act does not remain isolated but ~~was~~ had to be rationalized to become an element of his natural behavior.

8) Order to tell Pz.B. "You are a swindler". At these times dramatic conflict.

analysis from power.

ehnon

immobilization

extension or slowing

penetration — unmasking
 — revealing

Hypnosis

1

Very little of the enormous amount of literature on the subject having scientific value.

^{mesmerism - phras}
Hypnosis interest since with Charcot.

(end 19. Century Charcot, famous)

Experiment with hysterics Salpêtrière

hypnosis as hysterical symptom.

Phases: catalepsy, somnambulism etc.

Friend
obituary of
Charcot

Criticism: School of Dancy: Bernheim

Automatism et suggestion

Hypnosis is only suggestion, believing in an idea

Bernheim:

Suggestibility - special aptitude to transform

Between a mental pressure in a perceptual presence

Charcot
and
Bernheim

hypnosis: vigil state marked with sleep

no degrees - degrees

a question of all or nothing. But degrees of suggestibility

electric fields where a subject is able to follow suggestion

normal and pathological suggestion

(influence)

(Typical form of D.: Charcot's subjects passing spontaneously from one phase (stage) to another

or a person who responds to a suggestion of arm rigidity to an immediate or successively developed whole body rigidity

Or a person responding to a suggestion of being a red port on a screen, with being also other, say green ports etc.

Or subjects passing from hypnosis to normal sleeping

Technique: counting from 1 to 7. At 3 heavy eyelids, at 4 shutters them, 5 very sleepy, at 7 sleep.

pneumographic record
increase decrease

deceive
outline
switch



Benussi - figura - 1 Tona campi di vista
Lie detection

Storings quotient $\frac{I}{E} > 1$

$\frac{I}{E} < 1$ Tension, expectation



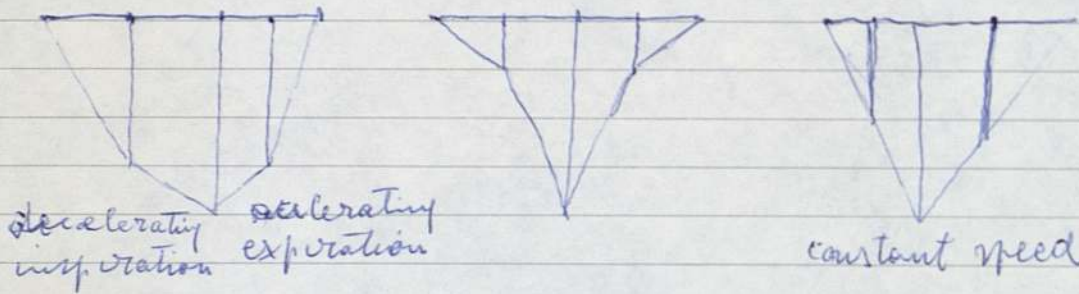
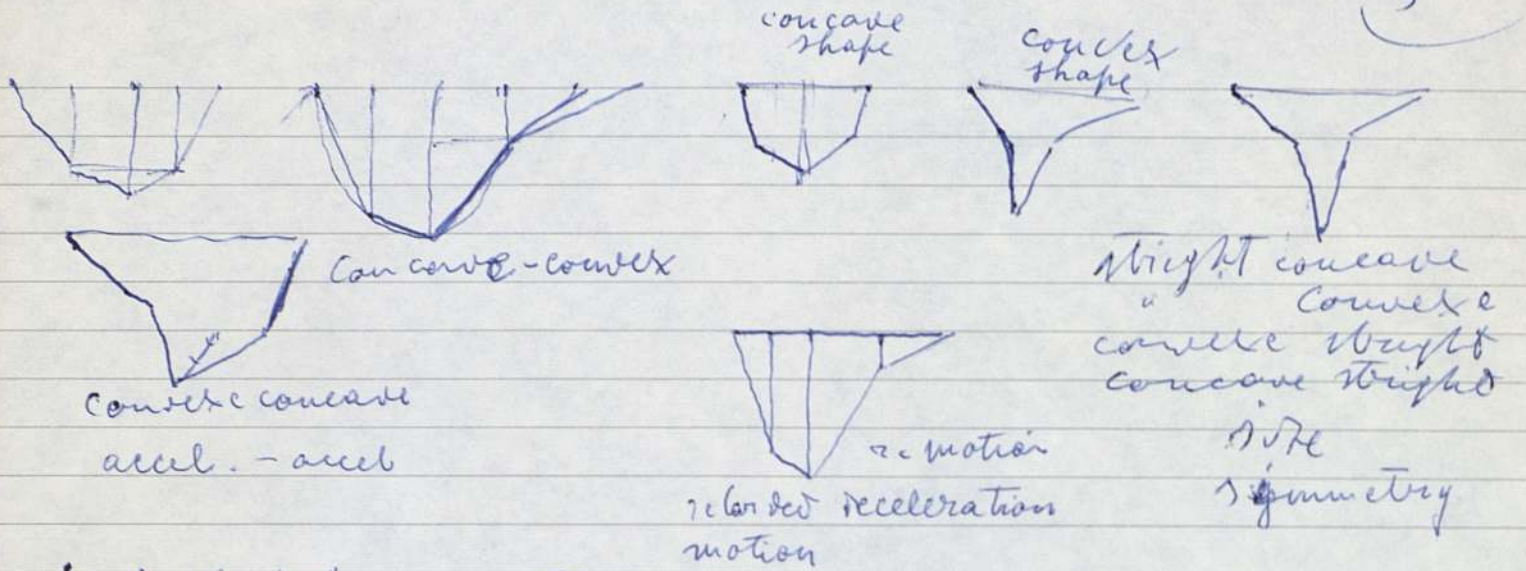
$q_a > q_s$

$q_a < q_s$

1. Character of hypnosis Susceptibility Suggestion
2. Technique
3. Type of research

1. Scovrevoliva riprodotiva reprediente
2. Allucinazioni positive e negative
3. Isolamento di ipnosi
4. Amnesia
5. (Sogno)
6. Movimenti apparenti
7. Descrizioni in ipnosi

sensibilizzazione
isolamento
clinico
suggestion



Hypnosis as a ~~mean~~ for Tool for experim. Psychology.

1. Reproduction of a series in inverse direction Till
A series of numbers or of syllables, learned by a subject ~~so that~~ he is just able to repeat it without mistakes, cannot be repeated by him - quickly - in inverse order. In general it is necessary to rehearse it, mentally, several times, in the direct order, in order to discover which element precedes which.

Bruner started from the hypothesis that if the associative links are built, they can be used in both directions, and if they don't function in the inverse direction, it is because there is an inhibition. If it is so, ~~disinhibiting the subject through a suggestion~~ overcoming the inhibition through a suggestion it ~~has to~~ the subject should be able to repeat the series from the bottom to the top, at the same speed. What, as a matter of fact, happened, Prove emotional states.

2. Isolation. Emotions are in general linked with perceptions or thoughts. Can they appear or ~~function~~ ^{be felt} independently from intellectual functions? ~~At~~ In the first decades of the century the answer was negative. Emotions were thought as dependent: a fear is a fear of some thing, and so is a sorrow, a joy and so on. Psychopathology speaks more for the possibility of free floating emotions. Bruner shared this last point of view, and used hypnosis to prove its truth. The way was pretty simple: inducing in a subject an emotion by suggestion; ~~not~~ that is inducing fear not by suggesting a danger, but simply telling the subject "you ~~are~~ ^{feel} afraid". However, to give scientific value to this simple experiment, at least three ~~more~~ ^{special} conditions are needed, namely: A. A starting point, being the same for every experiment of this type B. An objective control of the phenomena experienced by the subject C. A precise reservation of what the subject felt.

(B) let us begin with the objective control. Bruner It was not the first time B. worked on objective control of emotional reactions. 1914 pioneering work of his detecting - Hyp.: lie - growing tension or at least not decreasing, while sincere answer - decreasing tension. Measure of the tension the index $\frac{1}{E} \frac{\text{duration of inspiration}}{\text{dur. of expiration}}$ Starck's quotient.

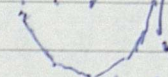
But B. observed that there were other aspects of ^{the curve of} breathing which could be linked with ~~some~~ special characteristics of emotion.

He observed that the shape of the breathing curve obtained through pneumography changed with changing attitudes and reactions of subjects. Therefore he studied a method to get what seems to be typical of the shape of a pneumographic ~~curve~~, that is of an inspiration and an expiration. The shape was obtained by connecting with rectilinear segments the following five points: beginning of inspiration, point corresponding to half duration of inspiration, end of inspiration or beginning of expiration, point corresponding to half duration of expiration, end of expiration. (Intervals between breathes during sleep)

(A) Basic sleep. To get a constant starting point, B, after the S. reached the hypnotic state, gave him the following suggestion: ^{now you enter a} sleep without thoughts and without images, and without tendencies to thoughts or images.

Very interesting point. At present - electroencefalography - more is known about sleep. Then the problem was: Does this sort of sleep exist? How would the subject react? Perhaps fainting? However B. succeeded. But which was the proof that he (or better the S.) succeeded? ^{well} But let us go to the third condition.

(C) How to get a precise description of what S. felt, that is ^{to know} how the subject has been able to follow the Experimentator's suggestion. It is plain that in this case ~~for~~ ^{B. had} had to resort to introspection. But in this case he ~~could~~ thought that he could resort to a special form of introspection, that is asking the hypnotized S. to rewrite what he felt. As a matter of fact, from a comparison between introspective protocols descriptions given by the subject in hypnosis and in the normal vigil state, about the same phenomenon, it appeared that both descriptions being fundamentally equal, the description given under hypnosis (and given after a "rehabilitating" suggestion) was much more rich, precise, so that the ~~normal~~ description given under "normal" conditions looked like a summary of the description given under hypnosis.

Now let us go back to the sleep without thoughts and images, which was named by B. "Basic sleep". ~~that~~ The description of S. was that he had a sort of pleasant feeling of ^{no lack of consciousness, no self} "feeling himself live". And the shape of the breathing curve during basic sleep was typical and constant: a byconcave one 

And then the experiment "when I'll give you a signal (f.ex. a knock on the table) you'll develop a sense of (joy, guilt, satisfaction etc) without thoughts ^{call you now}

or images, or tendencies to thoughts of images. When I say "enough" you resume your sleep without etc.. Then he asked the subject the descriptions and then the experiment was over after telling the subject that he would remember all what happened, and then awaking him.

Results. B. got data of about 50 emotional states. For every one he obtained the breathing shape, which was not an average shape, as it could be obtained for the "vigil state" or the "hypnotic state" or for "normal night sleep," because in the special condition of a "pure" emotional state, breathing shapes were ~~practically identical~~ ^{outline} for every state single state were practically identical and clearly different from breathing shapes of other emotional states.

An interesting fact was to observe, following, in the breathing curve, the transition from basic sleep to a pure emotional state. The change was abrupt, and could be perceived directly ~~in the as~~ ^{as a sharp break} in the breathing diagram separated the basic sleep breathing form from the breathing form typical of the emotional state, whose arousal had been suggested by the experimenter. The ~~some phenomenon~~ ^{B. named it switch breath} happened when S. came back to the b. sleep.

Having the ~~each~~ ^{outlined} breathing shapes of every experimented emotional state, B. asked his assistant who ignored everything about them, to order them according to geometric similarity. The striking result was that ~~this order~~ the resulting order was also an order of similarity of the emotional states relative to the shapes. At one end were the most pleasant emotional states, whose breathing shapes were in general by concave, and at the other end, the most unpleasant ones, whose shapes were in general by convex.

And as for the descriptions, it was interesting to notice that sometimes the S. said "At the beginning there was a tendency to look for a concrete situation. I had to fight with it. But it lasted a short time. Then this tendency disappeared. And then the rich description of what the S. felt."

Special development of the experiment. B. used not only emotions for this experiment but also what he called "pseudo intellectual states" as doubt, uncertainty, denial, approval, evidence.

Is it possible to develop a state of evidence without object? The S. found it a difficult but not an impossible task, and gave a very rich description of what this experience. B. went to study ~~that~~ the collection of introspective descriptions given by mystics and found that showed through a step by step comparison that extasy and experimentally obtained state of pure evidence were the same thing. In one case he also noticed that ~~that~~ what the mystic called "prayer of quietness", which the mystic asserted to be the best way of for reaching

extasy, corresponded to the introspective description of the basic sleep.

This was perhaps the most original and interesting experiment. I only mention some others. ~~At~~

A research in visual perception, where the effect of unseen stimuli was studied, unseen as the subject had had the suggestion "you'll see only red points and lines on this screen and nothing other" (a very difficult task, which only rare subjects were able to realize). but of course also unseen stimuli acted on the nervous system.

A research in hypnotically induced amnesia. The subject, after having been ordered to forget what happened during the hypnosis, is awakened, and does not remember anything. Then he is subjected to a Worthheimer-Jung word reaction test, and from the analysis of his verbal reactions to indifferent and to critical verbal stimuli it appears that his reactions to critical stimuli ^{have been} ~~are~~ under the influence of the subconscious presence of the events he had forgotten.

At last, two experiments on posthypnotic suggestions deserve to be mentioned.

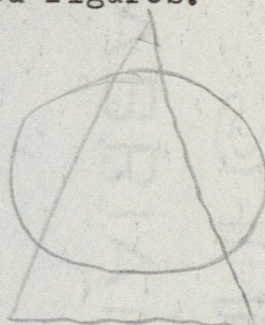
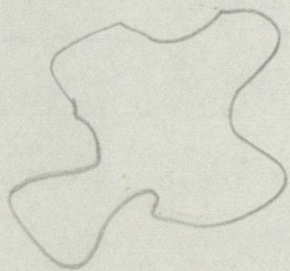
One is very simple. The ^{hypnotized} subject ~~is~~ receives the order to take his jacket off about ten minutes after the end of the experiment, and to forget ~~to~~ that he has been ordered to do so. After the experiment the seminar went on, and after about 10 minutes the S. was seen becoming restless, and going unobtrusively to the central heating apparatus and shutting it. ~~At the~~ Questioned, why he did it, he answered that it was terribly hot, and if he was permitted to take away his jacket. The interesting point is that ~~he~~ the act he was ordered to do did not present itself as isolated, not having the support of the order to which he was obeying, but was rationalized in order to become a part of his natural behavior.

In the other case the subject got the order to tell P.B. "You are a windler. If you think ^{attitude} the ~~relation~~ a student was expected to have towards a Professor at this time, it is plain that the ^{above} suggestion would generate a dramatic conflict. As a matter of fact the student got up from his chair, looked at the Professor and ran away.

In this and in the preceding case the student has been reprimanded and had the suggestion to remember all everything.

An interesting perceptual effect has been discovered by my friend Professor Petter.

In general, if a part of our visual field is chromatically homogeneous and includes another chromatically different but also homogeneous area, the latter is seen as an homogeneous perceptual whole, a figure on ~~an~~ homogeneous ground. If the included area is continuous, uninterrupted, it is generally perceived as a unitary figure; but there are cases where an uninterrupted area is perceived as two partially superimposed figures.



To ask in these cases which figure is ^{on top of} (upon) the other seems at first devoided of meaning, because the stimulation does not give us any information and it seems that we are free to decide ^{about it} (therabout). But paying more attention we discover that different configurations behave quite differently in this connection. There are many cases where borders of figures are ^{not} clear in the region

of superimposition; but there are also cases where not only borders are perfectly clear in the region where there is no change of stimulation, but figures are clearly perceived on two different planes. And as for the process of figure-ground reversal or, more exactly ^{three-}~~two~~-dimensional reversal of the figures, in some configurations reversal is easy and frequent, while in some other cases reversal is exceptional: it is always the same figure that is perceived ^{on top of} (upon) the other.

Through systematical variation of conditions, Professor Peter has been able to isolate factors which - other conditions being the same for both figures- decide - in the case of homogeneous stimulation- which figure will be perceived ^{on top of} upon the other. Factors are the following:

1. Movement. Movement of one of the figures not only favors ^u a different localisation in the third dimension, namely a clear stereo-effect, but causes the moving figure to be perceived ^{on top of} upon the other.
2. Shape. A more simple, less articulated figure is ^{preferably} perceived upon a more complex, more articulated figure.
3. Size. A ^{bigger} greater figure tends to be perceived ^{on top of} upon a smaller one.
4. Number. Several, in some way similar perceptual wholes (that is,

with regard to shape, size, movement) tend to be perceived on the same plane (and nearer) and upon a single figure.

If all or several of these factors act together the result can be paradoxical, in that it can give rise to a perceptual illusion.

Professor Kanizsa of Trieste University has had the idea of ^{contrasting} opposing the above perceptual laws ^{with} to past experience. His pictures - a series of perceptual absurdities - show ^{once again} a new that past experience is powerless against perceptual laws.

I like to finish my informal talk about work done at the Institute of Padova University with a little adventure in Applied Psychology. ^{Once I}

~~One time I had been called~~ ^{have been called up by the} ~~Palace of Justice~~ ^{court}. Having a pure conscience I was not upset, and in fact it was a judge I had met somewhere who called, asking "If I ^{would} ~~would~~ be willing to accept a task as consultant, about a problem that puzzled them. ^{him.} Although I ^{did not practise} ~~was not~~ the profession of Psychologist, I was curious enough to fix a rendez-vous, to ~~discuss the problem~~. And the problem was strange enough.

It was ~~a story~~ ^{had come} about a will. The testator, an old peasant ~~had gone to~~ ^{had come} to the accountant of the local Bank, whom he knew for many years, and ~~trusted~~ ^{trusted} him that he intended to let all his estate to the orphelins of one of his brothers, asking him how to do. "Go to the ^{notary} ~~lawyer~~" was the answer, "and he will do all." But he was not willing to follow this advice, because, he said, ^{proof to me} ~~if I go to the lawyer~~ ^{notary} the whole family ^{knew} ~~knows~~ that he made a will, and they ^{would} ~~give~~ ^{him} no peace till they know ^{the content of it} ~~what are the heirs~~. "Then," was the accountant's reply, "you can resort to an holographic will, that is a will written by yourself." This suited him; ^{however} ~~and~~ but he asked the accountant to formulate the will, and then to write it in calligraphically very big. The text was very simple: "I let all my ~~goods~~ ^{personal and real property} to my brother's children. ^{get from the} Subscription."

The operation of copying these fifteen words lasted according to the accountant, half an hour or more.

if people saw him going to the notary

And this was ~~unhappy~~ some years before. Then, ~~some years after~~, the peasant having died, the ~~will~~ had been contested by the testator's brothers, ~~aducing~~ the reason that the testator was ~~an~~ ^{an} ~~illiterate~~ ^{illiterate}, namely ~~unable to read and~~ ^{unable to read and} ~~write~~ ^{write}. It has to be pointed out that it was not called in question that the will signified the authentic intention of the testator. But, as the judge explained me, if it had been ~~demanded~~ ^{proved} that the testator had not been able to control the meaning of what he wrote, or in other words his will was a ~~painting~~ ^{painting} instead of a writing, it was not valid.

Why did they resort to a Psychologist to solve this problem? Perhaps it ~~was~~ ^{would have} been better to resort to a ~~medium~~ ^{medium} who would ~~be~~ ^{have been} able to ~~call on~~ ^{evoked} the soul of the dead.

However, if Psychology is the ~~main~~ ^{subject} of the problems Psychologists are interested in, I ~~had~~ ^{was offered} the opportunity of enlarging the field of Psychology. ~~the~~ Curiosity won, and I accepted this strange post mortem research.

First of all, I saw that it was better to renounce to the examination of witnesses. The village was divided into two parties one of which fought ~~each one~~ everyone with his own convictions. After news of the two parties had already discussed with witnesses influencing their convictions and their remembrings, and if something more could be proved I ~~had~~ ^{would have} certainly not been requested to study the problem. There were proofs that M^r ~~Santa~~ sometimes declared himself illiterate, he and subscribed with a cross; ^{and} sometimes he extracted a strip of paper where his name was written, and copied it. But it seemed proved that he sometimes bought the newspaper. As a matter of fact it was possible that he had been able to read and to copy but not to write without copying, a stage that ~~seems to be~~ ^{can} be observed among ^{elementary} school children learning to read and write.

~~Tas Gebiet = Zone~~

First of all I decided to control if an illiterate could be able to copy a short phrase, ^{(the will), although,} not being able to read it. And the result of this little research was that there are such people. In fact illiterates that never learned to write are not able to copy a phrase, but there are people which ^{only} began to learn to write and read, and these are able to copy, although being absolutely unable to read a phrase.

Given this result, I had to look at the problem from another point of view. There were errors in the ~~written~~ text of the will, ~~such~~ which had, each of them, the same character: they ~~were~~ could be interpreted as transformations of an Italian word into a as ~~it is~~ pronounced by a person speaking dialect. This could be a ^{sufficient} proof that the testator was able to read what he wrote. But as the transformations were always a loss of a letter, ^{namely} of a repeated letter, there ~~could~~ there had to be taken into account the probability of that such errors ~~be~~ ^{were} casual fortuitous. But, from the statistics of the errors made by ~~little~~ 40 illiterates copying the same text, the probability of making such fortuitous errors appeared to be negligible. A second control was suitable, in order to ^{verify} ~~the~~ ^{as it was possible} possibility that those errors ~~were~~ in the model copied by the testator. Therefore ~~not~~ another inquiry I had to ^{submit} ~~submit~~ the clerk who wrote the model to a ^{gap} ~~lecture~~ - test type ^{like the will known intelligent list} ~~Emphases~~ where he had to complete the text writing words of different orthographical difficulty, among others those that were erroneously written in the will. After this examination I was able to exclude that two of the three errors could have been present in the model of the will, and ^{therefore} to conclude my inquiry ^{expressing} not a certitude but a ~~favorable~~ ^{favorable} judgment as to the reading ability of the testator to control what he wrote in his will.

certificat. Louisiane
professeur enseigne