

The Conceptual  
Representation and the  
Measurement of  
Psychological Forces

Kurt Lewin

新闻学与传播学经典丛书·英文原版系列

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心理力量的概念表征与测量

Kurt Lewin 著  
〔美〕库尔特·勒温

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**心理力量的概念表征与测量**

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# 出版说明

“新闻学与传播学经典丛书·英文原版系列”，选取了在新闻学与传播学历史上具有里程碑意义的大师经典名作。如传播学“四大奠基人”哈罗德·拉斯韦尔、保罗·拉扎斯菲尔德等及加布里埃尔·塔尔德、罗伯特·帕克、哈罗德·英尼斯、马歇尔·麦克卢汉、库尔特·卢因、卡尔·霍夫兰等这些学界耳熟能详的名家佳作。这些是传播学与新闻学的奠基之作，也是现代新闻学与传播学发展的基础。许多名作都多次再版，影响深远，历久不衰，成为新闻学与传播学的经典。此套丛书采用英文原版出版，使读者读到原汁原味的著作。

随着中国高等教育教学改革的推进，广大师生已不满足于仅仅阅读国外图书的翻译版，他们迫切希望能读到原汁原味的原版图书，希望能采用国外英文原版图书进行教学，从而保证所讲授的知识体系的完整性、系统性、科学性和文字描绘的准确性。此套丛书的出版便是满足了这种需求。亦可使学生在专业技术方面尽快掌握本学科相应的外语词汇和了解先进国家的学术发展的方向。

本系列丛书在原汁原味地引进英文原版图书的同时，将目录译为中文，作为对原版的一种导读，供读者阅读时参考。本系列丛书有些因为出版年代比较久远，也囿于当时印刷水平的限制，有些地方可能与现在的标准不太一致，在不影响读者阅读的前提下，我们未对其进行处理，以保证英文原版图书的原汁原味，

从事经典著作的出版，需要出版人付出不懈的努力，好在有全国新闻院系的专家教授们的大力扶持，为我们提供了备选书目并对英文目录进行了翻译，因此使我们得以在学术出版的道路上走得更远。我们自知本系列丛书也许会有很多缺陷，我们也将虚心接受读者提出的批评和建议。

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## PREFACE

The following considerations are intended to be the first part of a "Vector Psychology" which should be viewed together with *Topological Psychology* as an outline of a conceptual framework of psychology.

I do not wish here to repeat the motivation of such an undertaking, which I have outlined in extenso in the book mentioned. However, I might make a few remarks about points on which some misunderstanding seems to exist.

1. Neither the *Topological Psychology* nor the following monograph is intended to be a textbook; that is, to sum up the findings of experimental research. They rather are intended to define and characterize certain sets of concepts. To judge the practical usefulness of these concepts, the reader will have to turn to the numerous experiments making use of these concepts. However, in this monograph I have been able to refer widely to experiments as examples and I have tried to cover at least some of the experimental fields in question more systematically.

2. To my surprise, quite often I am meeting people who assume that topological psychology means representing psychological problems in physical terms. Since I cannot imagine how one can stress the necessity and the right of psychological concepts (as against any other kind of concepts) in psychology more than I have tried, I suppose that these people have preferred to use the *Topological Psychology* more in the way of a picture book, making their own text for the pictures, instead of using it for reading.

Or do they identify geometry with physics? Perhaps the idea of an empirical space which is not identical with the physical one runs so much counter to a firmly established metaphysical prejudice, that one should grant some time to become acquainted with it. Actually it means merely taking seriously the co-existence of a multitude of interdependent psychological facts and therefore using an "order of co-existence"—that is, a mathematical space—to represent them.

3. I have been accused of "ahistorical" thinking. It is true that I try to distinguish more sharply than is usually done between historical and ahistorical problems in psychology. However, that does not imply at all a neglect of the historical categories. As a matter of fact, anyone who defines stimuli in psychological rather than in physical terms, and does not forget about the social side of psychological phenomena, cannot possibly omit the historical aspect of every psychological datum.

It may be appropriate to add a word in regard to the geometrical problems discussed here. Recently, particularly since Einstein's theory of relativity, physics has been deeply interested in determining which geometry is fitted best to describe the "spatial" relations between the empirical physical data. The previous idea that the Euclidian geometry is a priori valid and the only one to be considered was abandoned. The problem of space in an empirical science was recognized to be one of "applied geometry": a geometry had to be found which could be used as mathematical framework to describe the "order of coexistent empirical data" in a way which facilitates an intelligible representation of their dynamic interrelations.

Psychology today has to face a similar problem, although in a much less developed condition. The behavior of an individual is determined by a "multitude of coexisting facts," the life space, containing the person and his psychological environment. To some degree the relative position of the various parts of this life space can be mathematically represented by means of the relatively recently developed topology (Princ.). However, this general "qualitative" geometry does not permit determination of direction and distance which are quantitative in nature. On the other hand, in handling dynamical problems psychology never has nor could have avoided using these geometrical quantitative concepts. To my knowledge, mathematics seems not to have developed a geometry, both sufficiently general and sufficiently specific, to satisfy these needs of psychology.

Under these circumstances, some years ago, I found myself

obliged to outline the simplest basic characteristics of a geometry (the hodological space) which would serve this purpose, although I am more than conscious of my shortcomings as a mathematician. I hope that in due time a competent mathematician, thoroughly trained in psychological problems, might become interested, and I would not be surprised if such an undertaking would be of definite value also to mathematics proper.

The more I applied, during the last years, the concepts of hodological space to various psychological problems, the more I became confident that what in the beginning seemed rather venturesome turned out to be a workable and realistic approach. The few basic assumptions of hodological space frequently led to conclusions surprisingly adequate to psychological facts. In this regard I might mention the following general points:

(1) Everyday language and also all scientific psychological language uses frequently such terms as direction and distance in a way which, when physically interpreted, becomes obviously absurd or meaningless (e.g., "social approach or withdrawal"). The geometry of hodological space gives to these terms a strictly scientific and fully intelligible meaning.

(2) Hodological space is a geometry which mirrors certain basic biological facts, particularly the fact that an organism consists of definite units (wholes of various order) in nearly all its properties.

(3) It permits an adequate representation of social problems.

(4) It permits the bringing together of the cognitive factors with the dynamical ones, an ancient but hardly solved and rather puzzling problem.

Getting thoughts into mathematical form is sometimes a laborious and tedious task, and one often wonders whether it really pays. The most gratifying experience I had in this attempt was the finding that the various schools of psychology show a surprisingly high degree of agreement if one forgets differences in terminology and tries to represent nothing



else than the interrelation of facts: in other words, tries to use a mathematical language. This seems to be the only answer also to a second major task of psychology, namely, to analyze psychological data and still preserve the meaning of the event within its total (individual historical) psychological setting.

Psychology at the moment is rich with more or less new "general approaches." However, more important for psychology today than general approaches is the development of a type of "Theoretical Psychology" which has the same relation to "Experimental Psychology" as Theoretical Physics has to Experimental Physics. Theoretical Psychology then cannot be satisfied with generalities (however correct they might be) but has to supply specific means of solving the concrete problems of the laboratory and the clinic. I feel myself here in full agreement with the purpose of such an undertaking as that of Tolman or Hull. A reader who judges this monograph merely as a part of a "general approach" would miss the point.

I acknowledge with great appreciation the opportunity which Professor Chittenden gave me to go over the mathematical part of the problems (hodological space) with him, and I am grateful for his suggestions. Professor Hull obliged me by reading the representation of the goal-gradient hypothesis, and made suggestions which I was very glad to follow. On some points I have made use of valuable suggestions made by D. K. Adams. Several of my friends, particularly K. E. Zener, J. F. Brown, and R. Barker, were good enough to look over the manuscript. I am particularly grateful to R. Leeper, who was a very constructive critic and has read the galley proofs and has made many improvements.

K. L.

Iowa City, August 3, 1938.

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## INTRODUCTION

The purpose of the following chapters is the discussion of one of the fundamental problems of psychological dynamics—namely, the problem of representing psychological forces conceptually. The headings under which these problems have been presented by different psychologists have been multifarious, including such headings as “instinct,” “drive,” “excitatory tendency,” “force,” “libido,” “urge,” “goal,” and “motivation.” In recent years some progress has been made in experimental studies in this field. However, relatively speaking, the progress of experimental research, especially with human beings, hardly corresponds with the deep and widespread interest which the problem of instinct and motivation always has enjoyed.

To my mind, it seems that much of the responsibility for this state of affairs can be traced to a lack of development of the conceptual tools which one needs for theoretical and experimental research in this field. The following chapters are devoted to a discussion of some of these conceptual problems which seem unavoidable in any research in this field, and which arise regardless of the terminology that one is accustomed to use. The discussion of the concept of psychological forces confronts us with these tasks: (1) to see the value and position of this concept within the framework of psychological concepts and theories; (2) to clarify the logical side of the concept (in which task one of the most difficult and important parts is the discussion of the “geometrical” problems involved in the “directedness” of forces); (3) to discuss the empirical laws which govern psychological forces and the methods of measuring psychological forces.

Those readers who regard the discussion of the second and third chapters, which deal with the geometry of the life space, as rather difficult might find it agreeable to turn from chapter one directly to chapters four and five, which have a closer contact with the experimental work. The geometrical

problems discussed in chapters two and three might be referred to whenever needed.

I will not repeat here the explanation of certain concepts given in *Principles of Topological Psychology* (Lewin 1936).<sup>1</sup>

<sup>1</sup> Further references to *Principles of Topological Psychology* will be indicated by (Princ.).

## I

# THE POSITION OF THE CONSTRUCT OF FORCE IN PSYCHOLOGY

### A. DIRECTED VALUES IN PSYCHOLOGICAL EXPLANATIONS

#### 1. *The Necessity for Constructs (Intervening Concepts)*

The task of psychology is that of conceptually representing and deriving psychological processes. Oddly enough such derivations (or, as one might say, explanations) are not possible if one attempts to link directly with other observable facts ( $B_2$ ,  $B_3$ ) the behavior ( $B$ ) which has to be explained. It is becoming increasingly clear that it is necessary to introduce between these groups of directly observable facts a number of concepts or "constructs" which one can call "intervening concepts" (Tolman 1935 and 1937) or "conditional genetic concepts" (Lewin 1935, Brown 1936) or, briefly, "dynamic concepts."

One reason for this roundabout route in scientific thinking is that rather small apparent differences can be representative of important dynamical differences (and vice versa) and that a change of dynamical facts in one direction does not necessarily lead to a change in the same direction in the resulting symptoms. For instance, a slight degree of anger might express itself openly with relative ease. However, an increase of intensity of anger usually leads, not to an increase of anger expressions, but to a quieting down. A further increase might again lead to open expressions (Dembo 1931). Only in relatively rare cases is there a direct one-to-one relationship between the directly observable phenomenological facts and dynamical facts. In these cases the observable facts can be used as symptoms and eventually as measuring instruments for the dynamical facts.

Whatever the reason for the introduction of intermediate concepts, it must be recognized that any science which deals with questions of causation employs them. In physics, e.g., such terms as "force," "energy," "momentum," and "gravity" are names for facts which cannot be directly perceived.



but which are properties representing certain types of reaction or behavior. The existence of such states cannot be directly "seen," but must be demonstrated by "manipulation."

It is fair to say, I think, that there never has been a psychological school which did not make use of such intervening concepts. Concepts such as "association," "instinct," "libido," "drive," "Gestalt" (in the dynamic sense), "excitatory tendency," "conditioned reflex," and "intelligence," all represent dynamic facts the existence of which can be proved only indirectly by means of certain manipulations.<sup>1</sup> In popular speech we have many terms that refer to such inferred determinants of behavior—such terms as "forget," "want," and "fear." Science changes these dynamic concepts and provides definite methodological bases for them. However, it does not abandon this intervening type of concept altogether.

The introduction of dynamical facts involves theory. However, it is an illusion to believe that it is possible to develop on a purely empirical basis any science which deals with questions of interdependence and causation, if one understands by empiricism the exclusion of theories. None of the psychological systems thus far developed has been "empirical" in this sense. Consequently, instead of attempting to follow the mystical ideal of a "purely empirical" science of "facts" without theories or concepts, one may as well face openly and without disturbance the "fact" that dynamic constructs have been unavoidable in any worth-while psychology. Why not then introduce these concepts in a deliberate and orderly fashion, rather than permit them to slip in secretly and uncontrolled by the back door?

The danger of speculation lies not in the introduction of constructs, because they are unavoidable, but in the way they are introduced.

<sup>1</sup> It is rather difficult to state briefly the relations involved with a sufficient degree of accuracy. Koehler (1925), Heider (1927), and others have pointed out that dynamical facts might be perceived "directly" (without "thinking") through the medium of appearance. However, I trust that the difference between the two types of concepts and properties to which I refer is sufficiently clear.