

LIKENESS TO TRUTH

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GRAHAM ODDIE
*Philosophy Department,
Otago University, New Zealand*

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FOR ALISON

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PREFACE

The concept of likeness to truth, like that of truth itself, is fundamental to a realist conception of inquiry. To demonstrate this we need only make two rather modest realist assumptions: the truth doctrine (that the aim of an inquiry, as an inquiry, is the truth of some matter) and the progress doctrine (that one false theory may realise this aim better than another). Together these yield the conclusion that a false theory may be more truthlike, or closer to the truth, than another. It is the aim of this book to give a rigorous philosophical analysis of the concept of likeness to truth, and to examine the consequences, some of them no doubt surprising to those who have been unduly impressed by the (admittedly important) true/false dichotomy.

Truthlikeness is not only a requirement of a particular philosophical outlook, it is as deeply embedded in common sense as the concept of truth. Everyone seems to be capable of grading various propositions, in different (hypothetical) situations, according to their closeness to the truth in those situations. And (if my experience is anything to go by) there is remarkable unanimity on these pretheoretical judgements. This is not *proof* that there is a single coherent concept underlying these judgements. The whole point of engaging in philosophical analysis is to make this claim plausible. But these low-level, uncontroversial judgements provide us with our grip on the concept (if indeed there is a coherent concept) and any adequate philosophical account of the concept must not violate them. Or rather (recognising that even philosophers do not always traffick in pure truth and that some false philosophical theories are closer to the truth than others) an account of truthlikeness is better (other things being equal) the better it accords with low-level, uncontroversial judgements on simple cases. This is the basic methodological rule which controls theorising throughout the following pages.

If one considers the vast bulk of literature devoted to the concept of truth, it is quite remarkable how meagre is the attention paid to the much more interesting concept of truthlikeness. It is only in the last fifteen years or so that a group of philosophers have devoted any serious attention at all to the concept. Karl Popper was the first to see clearly the importance of giving an adequate account of truthlikeness, and it is not difficult to see why. Popper, perhaps more than most philosophers, was deeply impressed by the fact that our favourite theories so often turn out to be mistaken not least in that field of human knowledge with which Popper preoccupied himself: science. But Popper eschewed complete scepticism. He

wanted to affirm both the progress of human knowledge, as well as the goal of truth, and, combined with the thesis that the history of human knowledge is the history of a succession of false theories, this immediately generates the problem of truthlikeness. Popper was thus the first philosopher to attempt a rigorous analysis of the concept. However, Popper wanted to show not merely that truthlikeness is as respectable as truth, he wanted the concept to function appropriately within his own account of knowledge. In this account logical strength, or degree of content, plays a leading role—indeed, almost a solo performance. Thus the quest was on for an account according to which logical strength, sheer logical improbability, would be intimately tied to degrees of truthlikeness. Popper made a number of proposals which seemed to achieve just this.

In 1973 Popper was a Visiting Professor at Otago University, and I was a second year undergraduate. I could not attend the staff-graduate seminar, but I nevertheless heard the news that in the course of a paper given to the seminar Pavel Tichy had presented a knock-down refutation of Popper's account of truthlikeness. (Unknown to me at that time David Miller, at Warwick University, independently discovered the same negative result.) The news of Tichy's results intrigued me, and this was the beginning of an interest in truthlikeness which has occupied me, on and off, for the past twelve years. Two years after that eventful seminar (by which time I was eligible to attend) Tichy gave another in which he outlined a positive proposal. This positive proposal explained some of the motivation for Popper's probability-content approach, but it was really the beginnings of an entirely different sort of approach—one which took seriously the *likeness* in truthlikeness. According to this new approach, propositions present us with a range of different possibilities, and these possibilities are more or less like that possibility which is actualised. The truthlikeness of a proposition depends not on the quantity of its information (that is, on how many possibilities it rules out) but on the quality of its information (that is, on the likeness to the actual state of affairs of the possibilities it does allow). Moreover, Tichy demonstrated a way in which this simple but profound idea could be articulated in a precise and rigorous form—by utilising the structural features of the normal forms discovered by Jaakko Hintikka.

While much of what I have thought about truthlikeness has changed, Tichy's basic approach has always struck me as the most fruitful and promising. Anyone who reads this book will realise that my debt to him is enormous, and I would like to thank him for everything that I have learnt from him. As we have worked, discussed and corresponded together over the years our ideas on the topic have

become increasingly entangled. However, I have tried throughout the book to indicate our respective contributions, as well, of course, as those of others.

At roughly the same time that Tichy began working on his approach at Otago, Risto Hilpinen and Ilkka Niiniluoto began working on a similar approach in Finland. Hilpinen argued for the importance of likeness in judgements of truthlikeness, and Niiniluoto stressed the importance of giving a rigorous account of this, by means of Hintikka's normal forms. It is encouraging that such very similar discoveries can be made independently by philosophers working in quite different ways. As a realist, I take this to be evidence for the objectivity and solidity of truth, even in philosophy. But though the truth is solid enough, there is not much light about, and it is only occasionally that inquirers, in their stumblings and gropings, simultaneously grasp a portion of the truth, and become familiar with its shape.

In the course of the book I outline the major proposals that have been put forward, both within the probability–content programme (Chapters Two and Three) and within the likeness programme (Chapters Three and Four). This part of the book contains an overview of the debate, but obviously it has a perspective, and Chapter Four culminates in what I argue to be the most promising proposal for first-order logic. Moreover, the different theories are presented not so much in historical order, as in the order which best illuminates the argument for the proposal I defend.

The basic proposal for first-order truthlikeness can be extended and developed in a number of directions. In some quarters first-order logic is regarded with a quasi-religious awe, and deep suspicion surrounds those who draw attention to its shortcomings. First-order logic is usually thought to be congenial to nominalism (or at least not *hopelessly* at odds with nominalism), and nominalism, in various disguises, is the favoured philosophy of the day. It was also from Pavel Tichy that I first learnt the necessity for breaking out of the first-order strait-jacket, as well as the liberating pleasure of doing so. Many concepts central to our conceptual scheme (for example, causation, intention, action, purpose) show no inclination to be reduced to first-order surrogates, despite generations of philosophical effort. Thus higher-order frameworks are introduced in Chapter five, and it is shown how a space of possibilities can be generated by a collection which includes higher-order concepts or traits. Perhaps the most novel aspect of the treatment here is the account of truthlikeness for such higher-order frameworks, and the theory of permutative normal forms on which it is based. Chapter Five also extends the basic theory of truthlikeness to a general theory of distance between propositions, and a general