MANIPULATIONISM HOLDING THAT INFORMATION ABOUT THE RESULTS OF INTERVENTIONS IS OF UTMOST IMPORTANCE FOR SCIENTIFIC PRACTICES SUCH AS CAUSAL ASSESSMENT OR EXPLANATION. SPECIFICALLY, MANIPULATION PROVIDES INFORMATION ABOUT THE STABILITY, OR INVARIANCE, OF THE (CAUSAL) RELATIONSHIP BETWEEN (VARIABLES) X AND Y: WERE WE TO WIGGLE THE CAUSE X, THE EFFECT Y WOULD ACCORDINGLY WIGGLE AND, ADDITIONALLY, THE RELATION BETWEEN THE TWO WILL NOT BE DISRUPTED. THIS SORT OF RELATIONSHIP BETWEEN VARIABLES ARE CALLED ‘INARIANT EMPIRICAL GENERALISATIONS’. THE PAPER FOCUSES ON QUESTIONS ABOUT CAUSAL ASSESSMENT AND ANALYSES THE STATUS OF MANIPULATION. IT IS ARGUED THAT MANIPULATIONISM IS TRAPPED IN A DILEMMA. IF MANIPULATIONISM IS READ AS PROVIDING A CONCEPTUAL ANALYSIS OF CAUSATION, THEN IT FAILS TO PROVIDE A STORY ABOUT THE METHODS FOR CAUSAL ASSESSMENT. IF, INSTEAD, MANIPULATIONISM IS READ AS PROVIDING A METHOD FOR CAUSAL ASSESSMENT, THEN IT IS AT AN IMPASSE CONCERNING CAUSAL ASSESSMENT IN AREAS WHERE MANIPULATIONS ARE NOT PERFORMED. EMPIRICAL GENERALISATIONS ARE THEN REASSESSED, IN SUCH A WAY THAT MANIPULATION IS NOT TAKEN AS METHODOLOGICALLY FUNDAMENTAL. THE PAPER CONCLUDES THAT MANIPULATION IS THE APPROPRIATE TOOL FOR SOME SCIENTIFIC (EXPERIMENTAL) CONTEXTS, BUT NOT FOR ALL.

9.1 INTRODUCTION

MANIPULATIONIST THEORISTS, IN SLIGHTLY DIFFERENT WAYS, HOLD THE VIEW THAT INFORMATION ABOUT THE RESULTS OF INTERVENTIONS IS OF UTMOST IMPORTANCE FOR SCIENTIFIC PRACTICES SUCH AS CAUSAL ASSESSMENT OR EXPLANATION.  

Specifically, manipulation is meant to provide information concerning the invariance of the (causal) relationship between (variables) X and Y. This means that, in non-technical terms, were we to wiggle the putative cause X, the putative effect Y would accordingly wiggle and, additionally, the relation between the two will not be disrupted. This does not entail that wiggling X will necessarily make Y wiggle, but that, if it does, we will be interested in whether the relationship between X and Y is invariant in the sense sketched above. Such relationships are called *invariant empirical generalisations* and have the characteristic of being exploitable for explanation or for causal assessment. In this paper, I focus on questions related to causal assessment rather than explanation: I will focus on what makes empirical generalisations causal rather than with what makes them explanatory.

Section 9.2 presents the manipulationist account of empirical generalisations and makes it clear that *manipulation* is central for the account. The rest of the paper investigates the status of manipulation for questions of causal assessment. Section 9.3 argues that the manipulationist account is trapped in a dilemma. If the project is read as contributing to the conceptual analysis of causality, then it is at an impasse concerning the *methods* for causal assessment, i.e. no story about *how* to establish whether X causes Y is offered. If the project is read as contributing to the methodology of causality, then a second dilemma opens up. Strictly interpreted, manipulationism fails to offer methods for causal assessment in scientific areas where manipulations are not performed. Charitably interpreted, instead, manipulationism becomes so vague as to be an unilluminating – and even misleading – rationale underpinning causal reasoning in both experimental and nonexperimental contexts. In the light of the previous discussion, Sect. 9.4 reassesses empirical generalisations. The core of agreement with manipulationist theorists is that empirical generalisations are indeed *change*-relating relations and that for empirical generalisations to be causal they indeed have to be invariant, albeit in a sense that does not take manipulations as methodologically fundamental. The importance of the change-relating character of empirical generalisation has to do with the rationale underpinning causal reasoning: it is not manipulation but *variation* that does this job.

### 9.2 Manipulationist Empirical Generalisations

To understand the manipulationist project, we need to spell out the notions of (i) empirical generalisation, (ii) invariance, (iii) intervention, and the relations they stand with respect to each other.

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