CHAPTER IX.

OF THE PHYSICAL, OR CONCRETE DEDUCTIVE METHOD.

Sec. 1. After what has been said to illustrate the nature of the inquiry into social phenomena, the general character of the method proper to that inquiry is sufficiently evident, and needs only to be recapitulated, not proved. However complex the phenomena, all their sequences and coexistences result from the laws of the separate elements. The effect produced, in social phenomena, by any complex set of circumstances, amounts precisely to the sum of the effects of the circumstances taken singly: and the complexity does not arise from the number of the laws themselves, which is not remarkably great; but from the extraordinary number and variety of the data or elements--of the agents which, in obedience to that small number of laws, co-operate towards the effect. The Social Science, therefore (which, by a convenient barbarism, has been termed Sociology,) is a deductive science; not, indeed, after the model of geometry, but after that of the more complex physical sciences. It infers the law of each effect from the laws of causation on which that effect depends; not, however, from the law merely of one cause, as in the geometrical method; but by considering all the causes which conjunctly influence the effect, and compounding their laws with one another. Its method, in short, is the Concrete Deductive Method; that of which astronomy furnishes the most perfect, natural philosophy a somewhat less perfect example, and the employment of which, with the adaptations and precautions required by the subject, is beginning to regenerate physiology.

Nor does it admit of doubt, that similar adaptations and precautions are indispensable in sociology. In applying, to that most complex of all studies, what is demonstrably the sole method capable of throwing the light of science even upon phenomena of a far inferior degree of complication, we ought to be aware that the same superior complexity which renders the instrument of Deduction more necessary, renders it also more precarious; and we must be prepared to meet, by appropriate contrivances, this increase of difficulty.

The actions and feelings of human beings in the social state, are, no doubt, entirely governed by psychological and ethological laws: whatever influence any cause exercises upon the social phenomena, it exercises through those laws. Supposing therefore the laws of human actions and feelings to be sufficiently known, there is no extraordinary difficulty in determining from those laws, the nature of the social effects which any given cause tends to produce. But when the question is that of compounding several tendencies together, and computing the aggregate result of many coexistent causes; and especially when, by attempting to predict what will actually occur in a given case, we incur the obligation of estimating and compounding the influences of all the causes which happen to exist in that case; we attempt a task, to proceed far in which, surpasses the compass of the human faculties.

If all the resources of science are not sufficient to enable us to calculate *a priori*, with complete precision, the mutual action of three bodies gravitating towards one another; it may be judged with what prospect of success we should endeavour to calculate the result of the conflicting tendencies which are acting in a thousand different directions and promoting a thousand different changes at a given instant in a given society: although we might and ought to be able, from the laws of human nature, to distinguish correctly enough the tendencies themselves, so far as they depend on causes accessible to our observation; and to determine the direction which each of them, if acting alone, would impress upon society, as well as, in a general way at least, to pronounce that some of these tendencies are more powerful than others.

But, without dissembling the necessary imperfections of the *a priori* method when applied to such a subject, neither ought we, on the other hand, to exaggerate them. The same objections, which apply to the Method of Deduction in this its most difficult employment, apply to it, as we formerly showed,[9] in its easiest; and would even there have been insuperable, if there had not existed, as was then fully explained, an appropriate remedy. This remedy consists in the process which, under the name of Verification, we have characterized as the third essential constituent part of the Deductive Method; that of collating the conclusions of the ratiocination either with the concrete phenomena themselves, or, when such are obtainable, with their

empirical laws. The ground of confidence in any concrete deductive science is not the *a priori* reasoning itself, but the accordance between its results and those of observation *a posteriori*. Either of these processes, apart from the other, diminishes in value as the subject increases in complication, and this in so rapid a ratio as soon to become entirely worthless; but the reliance to be placed in the concurrence of the two sorts of evidence, not only does not diminish in anything like the same proportion, but is not necessarily much diminished at all. Nothing more results than a disturbance in the order of precedency of the two processes, sometimes amounting to its actual inversion: insomuch that instead of deducing our conclusions by reasoning, and verifying them by observation, we in some cases begin by obtaining them conjecturally from specific experience, and afterwards connect them with the principles of human nature by *a priori* reasonings, which reasonings are thus a real Verification.

The only thinker who, with a competent knowledge of scientific methods in general, has attempted to characterize the Method of Sociology, M. Comte, considers this inverse order as inseparably inherent in the nature of sociological speculation. He looks upon the social science as essentially consisting of generalizations from history, verified, not originally suggested, by deduction from the laws of human nature. Though there is a truth contained in this opinion, of which I shall presently endeavour to show the importance, I cannot but think that this truth is enunciated in too unlimited a manner, and that there is considerable scope in sociological inquiry for the direct, as well as for the inverse, Deductive Method.

It will, in fact, be shown in the next chapter, that there is a kind of sociological inquiries to which, from their prodigious complication, the method of direct deduction is altogether inapplicable, while by a happy compensation it is precisely in these cases that we are able to obtain the best empirical laws: to these inquiries, therefore, the Inverse Method is exclusively adapted. But there are also, as will presently appear, other cases in which it is impossible to obtain from direct observation anything worthy the name of an empirical law; and it fortunately happens that these are the very cases in which the Direct Method is least affected by the objection which undoubtedly must always affect it in a certain degree.

We shall begin, then, by looking at the Social Science as a science of direct Deduction, and considering what can be accomplished in it, and under what limitations, by that mode of investigation. We shall, then, in a separate chapter, examine and endeavour to characterize the inverse process.

Sec. 2. It is evident, in the first place, that Sociology, considered as a system of deductions *a priori*, cannot be a science of positive predictions, but only of tendencies. We may be able to conclude, from the laws of human nature applied to the circumstances of a given state of society, that a particular cause will operate in a certain manner unless counteracted; but we can never be assured to what extent or amount it will so operate, or affirm with certainty that it will not be counteracted; because we can seldom know, even approximately, all the agencies which may coexist with it, and still less calculate the collective result of so many combined elements. The remark, however, must here be once more repeated, that knowledge insufficient for prediction may be most valuable for guidance. It is not necessary for the wise conduct of the affairs of society, no more than of any one's private concerns, that we should be able to foresee infallibly the results of what we do. We must seek our objects by means which may perhaps be defeated, and take precautions against dangers which possibly may never be realized. The aim of practical politics is to surround any given society with the greatest possible number of circumstances of which the tendencies are beneficial, and to remove or counteract, as far as practicable, those of which the tendencies are injurious. A knowledge of the tendencies only, though without the power of accurately predicting their conjunct result, gives us to a certain extent this power.

It would, however, be an error to suppose that even with respect to tendencies, we could arrive in this manner at any great number of propositions which will be true in all societies without exception. Such a supposition would be inconsistent with the eminently modifiable nature of the social phenomena, and the multitude and variety of the circumstances by which they are modified; circumstances never the same, or even nearly the same, in two different societies, or in two different periods of the same society. This would not be so serious an obstacle if, though the causes acting upon society in general are numerous, those which influence any one

feature of society were limited in number; for we might then insulate any particular social phenomenon, and investigate its laws without disturbance from the rest. But the truth is the very opposite of this. Whatever affects, in an appreciable degree, any one element of the social state, affects through it all the other elements. The mode of production of all social phenomena is one great case of Intermixture of Laws. We can never either understand in theory or command in practice the condition of a society in any one respect, without taking into consideration its condition in all other respects. There is no social phenomenon which is not more or less influenced by every other part of the condition of the same society, and therefore by every cause which is influencing any other of the contemporaneous social phenomena. There is, in short, what physiologists term a *consensus*, similar to that existing among the various organs and functions of the physical frame of man and the more perfect animals; and constituting one of the many analogies which have rendered universal such expressions as the "body politic" and "body natural." It follows from this *consensus*, that unless two societies could be alike in all the circumstances which surround and influence them, (which would imply their being alike in their previous history,) no portion whatever of the phenomena will, unless by accident, precisely correspond; no one cause will produce exactly the same effects in both. Every cause, as its effect spreads through society, comes somewhere in contact with different sets of agencies, and thus has its effects on some of the social phenomena differently modified; and these differences, by their reaction, produce a difference even in those of the effects which would otherwise have been the same. We can never, therefore, affirm with certainty that a cause which has a particular tendency in one people or in one age will have exactly the same tendency in another, without referring back to our premises, and performing over again for the second age or nation, that analysis of the whole of its influencing circumstances which we had already performed for the first. The deductive science of society will not lay down a theorem, asserting in an universal manner the effect of any cause; but will rather teach us how to frame the proper theorem for the circumstances of any given case. It will not give the laws of society in general, but the means of determining the phenomena of any given society from the particular elements or data of that society.

All the general propositions which can be framed by the deductive science, are therefore, in the strictest sense of the word, hypothetical. They are grounded on some supposititious set of circumstances, and declare how some given cause would operate in those circumstances, supposing that no others were combined with them. If the set of circumstances supposed have been copied from those of any existing society, the conclusions will be true of that society, provided, and in as far as, the effect of those circumstances shall not be modified by others which have not been taken into the account. If we desire a nearer approach to concrete truth, we can only aim at it by taking, or endeavouring to take, a greater number of individualizing circumstances into the computation.

Considering, however, in how accelerating a ratio the uncertainty of our conclusions increases, as we attempt to take the effect of a greater number of concurrent causes into our calculations; the hypothetical combinations of circumstances on which we construct the general theorems of the science, cannot be made very complex, without so rapidly-accumulating a liability to error as must soon deprive our conclusions of all value. This mode of inquiry, considered as a means of obtaining general propositions, must, therefore, on pain of frivolity, be limited to those classes of social facts which, though influenced like the rest by all sociological agents, are under the *immediate* influence, principally at least, of a few only.

Sec. 3. Notwithstanding the universal *consensus* of the social phenomena, whereby nothing which takes place in any part of the operations of society is without its share of influence on every other part; and notwithstanding the paramount ascendancy which the general state of civilization and social progress in any given society must hence exercise over all the partial and subordinate phenomena; it is not the less true that different species of social facts are in the main dependent, immediately and in the first resort, on different kinds of causes; and therefore not only may with advantage, but must, be studied apart: just as in the natural body we study separately the physiology and pathology of each of the principal organs and tissues, though every one is acted upon by the state of all the others: and though the peculiar constitution and general state of health of the organism co-operates with, and often preponderates over, the local causes, in determining the state of any particular organ.

On these considerations is grounded the existence of distinct and separate, though not independent, branches or departments of sociological speculation.

There is, for example, one large class of social phenomena, in which the immediately determining causes are principally those which act through the desire of wealth; and in which the psychological law mainly concerned is the familiar one, that a greater gain is preferred to a smaller. I mean, of course, that portion of the phenomena of society which emanate from the industrial, or productive, operations of mankind; and from those of their acts through which the distribution of the products of those industrial operations takes place, in so far as not effected by force, or modified by voluntary gift. By reasoning from that one law of human nature, and from the principal outward circumstances (whether universal or confined to particular states of society) which operate upon the human mind through that law, we may be enabled to explain and predict this portion of the phenomena of society, so far as they depend on that class of circumstances only; overlooking the influence of any other of the circumstances of society; and therefore neither tracing back the circumstances which we do take into account, to their possible origin in some other facts in the social state, nor making allowance for the manner in which any of those other circumstances may interfere with, and counteract or modify, the effect of the former. A science may thus be constructed, which has received the name of Political Economy.

The motive which suggests the separation of this portion of the social phenomena from the rest, and the creation of a distinct science relating to them is,--that they do *mainly* depend, at least in the first resort, on one class of circumstances only; and that even when other circumstances interfere, the ascertainment of the effect due to the one class of circumstances alone, is a sufficiently intricate and difficult business to make it expedient to perform it once for all, and then allow for the effect of the modifying circumstances; especially as certain fixed combinations of the former are apt to recur often, in conjunction with ever-varying circumstances of the latter class.

Political Economy, as I have said on another occasion, concerns itself only with "such of the phenomena of the social state as take place in consequence of the pursuit of wealth. It makes entire abstraction of every other human passion or motive; except those which may be regarded as perpetually antagonizing principles to the desire of wealth, namely, aversion to labour, and desire of the present enjoyment of costly indulgences. These it takes, to a certain extent, into its calculations, because these do not merely, like our other desires, occasionally conflict with the pursuit of wealth, but accompany it always as a drag or impediment, and are therefore inseparably mixed up in the consideration of it. Political Economy considers mankind as occupied solely in acquiring and consuming wealth; and aims at showing what is the course of action into which mankind, living in a state of society, would be impelled, if that motive, except in the degree in which it is checked by the two perpetual counter-motives above adverted to, were absolute ruler of all their actions. Under the influence of this desire, it shows mankind accumulating wealth, and employing that wealth in the production of other wealth; sanctioning by mutual agreement the institution of property; establishing laws to prevent individuals from encroaching upon the property of others by force or fraud; adopting various contrivances for increasing the productiveness of their labour; settling the division of the produce by agreement, under the influence of competition (competition itself being governed by certain laws, which laws are therefore the ultimate regulators of the division of the produce); and employing certain expedients (as money, credit, &c.) to facilitate the distribution. All these operations, though many of them are really the result of a plurality of motives, are considered by political economy as flowing solely from the desire of wealth. The science then proceeds to investigate the laws which govern these several operations, under the supposition that man is a being who is determined, by the necessity of his nature, to prefer a greater portion of wealth to a smaller, in all cases, without any other exception than that constituted by the two counter-motives already specified. Not that any political economist was ever so absurd as to suppose that mankind are really thus constituted, but because this is the mode in which science must necessarily proceed. When an effect depends on a concurrence of causes, these causes must be studied one at a time, and their laws separately investigated, if we wish, through the causes, to obtain the power of either predicting or controlling the effect; since the law of the effect is compounded of the laws of all the causes which determine it. The law of the

centripetal and that of the projectile force must have been known, before the motions of the earth and planets could be explained, or many of them predicted. The same is the case with the conduct of man in society. In order to judge how he will act under the variety of desires and aversions which are concurrently operating upon him, we must know how he would act under the exclusive influence of each one in particular. There is, perhaps, no action of a man's life in which he is neither under the immediate nor under the remote influence of any impulse but the mere desire of wealth. With respect to those parts of human conduct of which wealth is not even the principal object, to these political economy does not pretend that its conclusions are applicable. But there are also certain departments of human affairs, in which the acquisition of wealth is the main and acknowledged end. It is only of these that political economy takes notice. The manner in which it necessarily proceeds is that of treating the main and acknowledged end as if it were the sole end; which, of all hypotheses equally simple, is the nearest to the truth. The political economist inquires, what are the actions which would be produced by this desire, if within the departments in question it were unimpeded by any other. In this way a nearer approximation is obtained than would otherwise be practicable to the real order of human affairs in those departments. This approximation has then to be corrected by making proper allowance for the effects of any impulses of a different description, which can be shown to interfere with the result in any particular case. Only in a few of the most striking cases (such as the important one of the principle of population) are these corrections interpolated into the expositions of political economy itself; the strictness of purely scientific arrangement being thereby somewhat departed from, for the sake of practical utility. So far as it is known or may be presumed, that the conduct of mankind in the pursuit of wealth is under the collateral influence of any other of the properties of our nature, than the desire of obtaining the greatest quantity of wealth with the least labour and self-denial, the conclusions of political economy will so far fail of being applicable to the explanation or prediction of real events, until they are modified by a correct allowance for the degree of influence exercised by the other cause."[10]

Extensive and important practical guidance may be derived, in any given state of society, from general propositions such as those above indicated; even though the modifying influence of the miscellaneous causes which the theory does not take into account, as well as the effect of the general social changes in progress, be provisionally overlooked. And though it has been a very common error of political economists to draw conclusions from the elements of one state of society, and apply them to other states in which many of the elements are not the same; it is even then not difficult, by tracing back the demonstrations, and introducing the new premises in their proper places, to make the same general course of argument which served for the one case, serve for the others too.

For example, it has been greatly the custom of English political economists to discuss the laws of the distribution of the produce of industry, on a supposition which is scarcely realized anywhere out of England and Scotland, namely, that the produce is "shared among three classes, altogether distinct from one another, labourers, capitalists, and landlords; and that all these are free agents, permitted in law and in fact to set upon their labour, their capital, and their land, whatever price they are able to get for it. The conclusions of the science, being all adapted to a society thus constituted, require to be revised whenever they are applied to any other. They are inapplicable where the only capitalists are the landlords, and the labourers are their property, as in slave countries. They are inapplicable where the almost universal landlord is the state as in India. They are inapplicable where the agricultural labourer is generally the owner both of the land itself and of the capital, as frequently in France, or of the capital only, as in Ireland." But though it may often be very justly objected to the existing race of political economists "that they attempt to construct a permanent fabric out of transitory materials; that they take for granted the immutability of arrangements of society, many of which are in their nature fluctuating or progressive, and enunciate with as little qualification as if they were universal and absolute truths, propositions which are perhaps applicable to no state of society except the particular one in which the writer happened to live;" this does not take away the value of the propositions, considered with reference to the state of society from which they were drawn. And even as applicable to other states of society, "it must not be supposed that the science is so incomplete and unsatisfactory as this might seem to prove. Though many of its conclusions are only locally true, its method of investigation is applicable universally; and as whoever has solved a certain number of algebraic equations, can without difficulty solve

all others of the same kind, so whoever knows the political economy of England, or even of Yorkshire, knows that of all nations, actual or possible, provided he have good sense enough not to expect the same conclusion to issue from varying premises." Whoever is thoroughly master of the laws which, under free competition, determine the rent, profits, and wages, received by landlords, capitalists, and labourers, in a state of society in which the three classes are completely separate, will have no difficulty in determining the very different laws which regulate the distribution of the produce among the classes interested in it, in any of the states of cultivation and landed property set forth in the foregoing extract.[11]

Sec. 4. I would not here undertake to decide what other hypothetical or abstract sciences similar to Political Economy, may admit of being carved out of the general body of the social science; what other portions of the social phenomena are in a sufficiently close and complete dependence, in the first resort, on a peculiar class of causes, to make it convenient to create a preliminary science of those causes; postponing the consideration of the causes which act through them, or in concurrence with them, to a later period of the inquiry. There is however among these separate departments one which cannot be passed over in silence, being of a more comprehensive and commanding character than any of the other branches into which the social science may admit of being divided. Like them, it is directly conversant with the causes of only one class of social facts, but a class which exercises, immediately or remotely, a paramount influence over the rest. I allude to what may be termed Political Ethology, or the theory of the causes which determine the type of character belonging to a people or to an age. Of all the subordinate branches of the social science, this is the most completely in its infancy. The causes of national character are scarcely at all understood, and the effect of institutions or social arrangements upon the character of the people is generally that portion of their effects which is least attended to, and least comprehended. Nor is this wonderful, when we consider the infant state of the Science of Ethology itself, from whence the laws must be drawn, of which the truths of political ethology can be but results and exemplifications.

Yet to whoever well considers the matter, it must appear that the laws of national (or collective) character are by far the most important class of sociological laws. In the first place, the character which is formed by any state of social circumstances is in itself the most interesting phenomenon which that state of society can possibly present. Secondly, it is also a fact which enters largely into the production of all the other phenomena. And above all, the character, that is, the opinions, feelings, and habits, of the people, though greatly the results of the state of society which precedes them, are also greatly the causes of the state of society which follows them; and are the power by which all those of the circumstances of society which are artificial, laws and customs for instance, are altogether moulded: customs evidently, laws no less really, either by the direct influence of public sentiment upon the ruling powers, or by the effect which the state of national opinion and feeling has in determining the form of government and shaping the character of the governors.

As might be expected, the most imperfect part of those branches of social inquiry which have been cultivated as separate sciences, is the theory of the manner in which their conclusions are affected by ethological considerations. The omission is no defect in them as abstract or hypothetical sciences, but it vitiates them in their practical application as branches of a comprehensive social science. In political economy for instance, empirical laws of human nature are tacitly assumed by English thinkers, which are calculated only for Great Britain and the United States. Among other things, an intensity of competition is constantly supposed, which, as a general mercantile fact, exists in no country in the world except those two. An English political economist, like his countrymen in general, has seldom learned that it is possible that men, in conducting the business of selling their goods over a counter, should care more about their ease or their vanity than about their pecuniary gain. Yet those who know the habits of the Continent of Europe are aware how apparently small a motive often outweighs the desire of money-getting, even in the operations which have money-getting for their direct object. The more highly the science of ethology is cultivated, and the better the diversities of individual and national character are understood, the smaller, probably, will the number of propositions become, which it will be considered safe to build on as universal principles of human nature.

These considerations show that the process of dividing off the social science into compartments, in order that

each may be studied separately, and its conclusions afterwards corrected for practice by the modifications supplied by the others, must be subject to at least one important limitation. Those portions alone of the social phenomena can with advantage be made the subjects, even provisionally, of distinct branches of science, into which the diversities of character between different nations or different times enter as influencing causes only in a secondary degree. Those phenomena, on the contrary, with which the influences of the ethological state of the people are mixed up at every step (so that the connexion of effects and causes cannot be even rudely marked out without taking those influences into consideration) could not with any advantage, nor without great disadvantage, be treated independently of political ethology, nor, therefore, of all the circumstances by which the qualities of a people are influenced. For this reason (as well as for others which will hereafter appear) there can be no separate Science of Government; that being the fact which, of all others, is most mixed up, both as cause and effect, with the qualities of the particular people or of the particular age. All questions respecting the tendencies of forms of government must stand part of the general science of society, not of any separate branch of it.

This general Science of Society, as distinguished from the separate departments of the science (each of which asserts its conclusions only conditionally, subject to the paramount control of the laws of the general science) now remains to be characterized. And as will be shown presently, nothing of a really scientific character is here possible, except by the inverse deductive method. But before we quit the subject of those sociological speculations which proceed by way of direct deduction, we must examine in what relation they stand to that indispensable element in all deductive sciences, Verification by Specific Experience--comparison between the conclusions of reasoning and the results of observation.

Sec. 5. We have seen that, in most deductive sciences, and among the rest in Ethology itself, which is the immediate foundation of the Social Science, a preliminary work of preparation is performed on the observed facts, to fit them for being rapidly and accurately collated (sometimes even for being collated at all) with the conclusions of theory. This preparatory treatment consists in finding general propositions which express concisely what is common to large classes of observed facts: and these are called the empirical laws of the phenomena. We have, therefore, to inquire, whether any similar preparatory process can be performed on the facts of the social science; whether there are any empirical laws in history or statistics.

In statistics, it is evident that empirical laws may sometimes be traced; and the tracing them forms an important part of that system of indirect observation on which we must often rely for the data of the Deductive Science. The process of the science consists in inferring effects from their causes; but we have often no means of observing the causes, except through the medium of their effects. In such cases the deductive science is unable to predict the effects, for want of the necessary data; it can determine what causes are capable of producing any given effect, but not with what frequency and in what quantities those causes exist. An instance in point is afforded by a newspaper now lying before me. A statement was furnished by one of the official assignees in bankruptcy, showing among the various bankruptcies which it had been his duty to investigate, in how many cases the losses had been caused by misconduct of different kinds, and in how many by unavoidable misfortunes. The result was, that the number of failures caused by misconduct greatly preponderated over those arising from all other causes whatever. Nothing but specific experience could have given sufficient ground for a conclusion to this purport. To collect, therefore, such empirical laws (which are never more than approximate generalizations) from direct observation, is an important part of the process of sociological inquiry.

The experimental process is not here to be regarded as a distinct road to the truth, but as a means (happening accidentally to be the only, or the best, available) for obtaining the necessary data for the deductive science. When the immediate causes of social facts are not open to direct observation, the empirical law of the effects gives us the empirical law (which in that case is all that we can obtain) of the causes likewise. But those immediate causes depend on remote causes; and the empirical law, obtained by this indirect mode of observation, can only be relied on as applicable to unobserved cases, so long as there is reason to think that no change has taken place in any of the remote causes on which the immediate causes depend. In making use,

therefore, of even the best statistical generalizations for the purpose of inferring (though it be only conjecturally) that the same empirical laws will hold in any new case, it is necessary that we be well acquainted with the remoter causes, in order that we may avoid applying the empirical law to cases which differ in any of the circumstances on which the truth of the law ultimately depends. And thus, even where conclusions derived from specific observation are available for practical inferences in new cases, it is necessary that the deductive science should stand sentinel over the whole process; that it should be constantly referred to, and its sanction obtained to every inference.

The same thing holds true of all generalizations which can be grounded on history. Not only there are such generalizations, but it will presently be shown that the general science of society, which inquires into the laws of succession and coexistence of the great facts constituting the state of society and civilization at any time, can proceed in no other manner than by making such generalizations--afterwards to be confirmed by connecting them with the psychological and ethological laws on which they must really depend.

Sec. 6. But (reserving this question for its proper place) in those more special inquiries which form the subject of the separate branches of the social science, this twofold logical process and reciprocal verification is not possible: specific experience affords nothing amounting to empirical laws. This is particularly the case where the object is to determine the effect of any one social cause among a great number acting simultaneously; the effect, for example, of corn laws, or of a prohibitive commercial system generally. Though it may be perfectly certain, from theory, what *kind* of effects corn laws must produce, and in what general direction their influence must tell upon industrial prosperity; their effect is yet of necessity so much disguised by the similar or contrary effects of other influencing agents, that specific experience can at most only show that on the average of some great number of instances, the cases where there were corn laws exhibited the effect in a greater degree than those where there were not. Now the number of instances necessary to exhaust the whole round of combinations of the various influential circumstances, and thus afford a fair average, never can be obtained. Not only we can never learn with sufficient authenticity the facts of so many instances, but the world itself does not afford them in sufficient numbers, within the limits of the given state of society and civilization which such inquiries always presuppose. Having thus no previous empirical generalizations with which to collate the conclusions of theory, the only mode of direct verification which remains is to compare those conclusions with the result of an individual experiment or instance. But here the difficulty is equally great. For in order to verify a theory by an experiment, the circumstances of the experiment must be exactly the same with those contemplated in the theory. But in social phenomena the circumstances of no two cases are exactly alike. A trial of corn laws in another country or in a former generation, would go a very little way towards verifying a conclusion drawn respecting their effect in this generation and in this country. It thus happens, in most cases, that the only individual instance really fitted to verify the predictions of theory is the very instance for which the predictions were made; and the verification comes too late to be of any avail for practical guidance.

Although, however, direct verification is impossible, there is an indirect verification, which is scarcely of less value, and which is always practicable. The conclusion drawn as to the individual case, can only be directly verified in that case; but it is verified indirectly, by the verification of other conclusions, drawn in other individual cases from the same laws. The experience which comes too late to verify the particular proposition to which it refers, is not too late to help towards verifying the general sufficiency of the theory. The test of the degree in which the science affords safe ground for predicting (and consequently for practically dealing with) what has not yet happened, is the degree in which it would have enabled us to predict what has actually occurred. Before our theory of the influence of a particular cause, in a given state of circumstances, can be entirely trusted, we must be able to explain and account for the existing state of all that portion of the social phenomena which that cause has a tendency to influence. If, for instance, we would apply our speculations in political economy to the prediction or guidance of the phenomena of any country, we must be able to explain all the mercantile or industrial facts of a general character, appertaining to the present state of that country: to point out causes sufficient to account for all of them, and prove, or show good ground for supposing, that these causes have really existed. If we cannot do this, it is a proof either that the facts which ought to be taken

into account are not yet completely known to us, or that although we know the facts, we are not masters of a sufficiently perfect theory to enable us to assign their consequences. In either case we are not, in the present state of our knowledge, fully competent to draw conclusions, speculative or practical, for that country. In like manner if we would attempt to judge of the effect which any political institution would have, supposing that it could be introduced into any given country; we must be able to show that the existing state of the practical government of that country, and of whatever else depends thereon, together with the particular character and tendencies of the people, and their state in respect to the various elements of social well-being, are such as the institutions they have lived under, in conjunction with the other circumstances of their nature or of their position, were calculated to produce.

To prove (in short) that our science, and our knowledge of the particular case, render us competent to predict the future, we must show that they would have enabled us to predict the present and the past. If there be anything which we could not have predicted, this constitutes a residual phenomenon, requiring further study for the purpose of explanation; and we must either search among the circumstances of the particular case until we find one which, on the principles of our existing theory, accounts for the unexplained phenomenon, or we must turn back, and seek the explanation by an extension and improvement of the theory itself.