VILFREDO PARETO

THE MIND AND SOCIETY
A TREATISE
ON GENERAL SOCIOLOGY

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FOUR VOLUMES BOUND AS TWO
VOLUME TWO: THEORY OF RESIDUES

CHINA SOCIAL SCIENCES PUBLISHING HOUSE
CHENGCHENG BOOKS LTD.

CONTENTS

VOLUME II

THE MIND AND SOCIETY

Volume II: Analysis of Sentiment
(Theory of Residues)

CHAPTER VI[1]

Residues: Combinations and Group Persistence

842. Since social phenomena appear in complex form in the concrete, we saw at once that it would be helpful to divide them into at least two elements, distinguishing logical from non-logical conduct; and that gave us a first conception of the nature of non-logical conduct and of its importance in human society. But at that point a question arose: If non-logical conduct plays such an important rôle in human life, why has it been so generally neglected (§ 252)? We found in reply that almost all writers on social or political subjects have indeed observed such conduct, or at least caught glimpses of it. Many elements, therefore, of the theory we are framing in these volumes are to be found scattered about here and there in the works of various writers, though often under hardly recognizable forms.

843. But we saw that all such writers had ideas of their own to which they very expressly attached capital importance—ideas on religion, morality, law, and the like, which have been battle-grounds for centuries. So, if they did recognize non-logical conduct implicitly, explicitly they glorified logical conduct, and most of them regarded it as the only conduct worth considering in social phenomena. We were therefore called upon to see what truth there was in theories of that type, and to decide whether we were to abandon the course on which we had set out or take heart and push on.

We then proceeded to examine those various manners of considering social phenomena, and we saw that from the logico-experimental standpoint they were devoid of all exactness and of any strict accord with the facts; though from another standpoint, we could not deny the great importance that they had had in history

[1] Had we been following the deductive method, this chapter would have been placed at the beginning of Vol. I. I may find it desirable to follow that method in treatises to come. Here I have preferred the inductive approach, that my reader might follow the road I have myself traversed in arriving at the theories with which we shall hereafter be dealing.

and in determining the social equilibrium. That discovery lent force to a suspicion which had already occurred to us, and which will acquire greater and greater prominence in the course of these volumes: that the experimental "truth" of certain theories is one thing and their social "utility" quite another, and that the two things are not only not one and the same but may, and often do, stand in flat contradiction (§§ 1682 f., 1897 f.).

844. We found that it was as important to separate those two things as it had been to distinguish logical from non-logical conduct, and our inductive survey showed that the failure to make such a distinction had been the main cause of error, from the scientific standpoint, in most social theories.

845. So we looked at them a little more closely and saw how and why they went astray, and how and why, though fallacious, they enjoyed and still enjoy such great prestige. In the course of that investigation we came upon things which we had not thought of at the outset. But we went on analyzing, distinguishing, and soon we observed another possible distinction that struck us as being quite as important as the others we had made—on the one hand an instinctive, non-logical element that was constant, on the other, a deductive element that was designed to explain, justify, demonstrate, the constant element. Arriving at that point, we found that induction had given us the elements of a theory.

846. Here, now, we are called upon to frame it, that is to say, we must now drop the inductive for the deductive method, and see what consequences result from the principles that we have found, or think we have found. After that we shall have to compare our inferences with the facts. If they fit, we shall keep our theory. If they fail to fit, we shall discard it.

847. In this chapter (and since the subject is a vast one, in the next two) we are to study the constant element *a* (§ 798), going on, after that, to the deductive element *b*. But we are dealing with a very difficult matter, and a few more remarks in general on the elements *a* and *b*, and their resultant *c*, will not come amiss.

848. We saw in § 803 that in the theories of the logico-experi-

mental sciences one may discern a basic element *A*, and a deductive element *B*, which in some respects are analogous to, in some respects different from, the elements *a* and *b* in theories that are not strictly logico-experimental.

The social sciences as hitherto cultivated show elements that bear a closer resemblance to *a* than to *A*, through their failure to avoid intrusions of sentiments, prejudices, creeds, or other predilections, tendencies, postulates, principles, that carry the thinker outside the logico-experimental domain.

849. The deductive element in the social sciences as hitherto cultivated sometimes comes very close to *B*, and there are cases where the logic is so adequate that the coincidence with *B* would be exact were it not for a lack of definiteness in the premises *a*, which deprives the reasoning of strict validity. But oftentimes in the social sciences the deductive element stands very close to *b*, as containing many non-logical and non-experimental principles and showing great susceptibility to inclinations, bias, and the like.

850. So let us make the elements *a* and *b* our main concern. The element *a* corresponds, we may guess, to certain instincts of man, or more exactly, men, because *a* has no objective existence and differs in different individuals; and it is probably because of its correspondence to instincts that it is virtually constant in social phenomena. The element *b* represents the work of the mind in accounting for *a*. That is why *b* is much more variable, as reflecting the play of the imagination.[1]

851. But if the element *a* corresponds to certain instincts, it is far from reflecting them all; and that is evident from the very manner in which we found it. We analyzed specimens of thinking on the look-out for a constant element. We may therefore have found only the instincts that underlay those reasonings. There was no chance of our meeting along that road instincts which were not so logicalized. Unaccounted for still would be simple appetites, tastes, in-

850 [1] As we have already seen (§ 802), the part *b* has in its turn to be subdivided, since it varies all the way from one extreme, where it is pure logic, to another extreme where it is pure instinct and fancy. We shall deal with that situation at length in Chapters IX and X.

clinations, and in social relationships that very important class called "interests."

852. We may also have found only a part of one of the things *a,* the other part being a mere appetite. If the sex instinct tended only to unite the sexes it would not figure in our investigations. But that instinct is often enough logicalized and dissembled under guise of asceticism; there are people who preach virtue as a way of lingering, in their thoughts, on sex matters. Examining their thinking, we accordingly find an element *a* corresponding to the sex instinct, and an element *b* that is the reasoning under which it hides. Diligent search might reveal similar elements corresponding to the appetites for food and drink. But in those cases the rôle played by simple instinct is far more considerable, at any rate, than in the case of sex.

853. The fact of being provident or improvident depends upon certain instincts, certain tastes, and from that point of view it would not figure in *a.* But in the United States the improvident instinct has fathered a theory that people ought to spend all they can earn; and so analysis of that theory yields a quantum *a,* which will be improvidence.

854. A politician is inspired to champion the theory of "solidarity" by an ambition to obtain money, power, distinctions. Analysis of that theory would reveal but scant trace of his motives, which are, after all, the motives of virtually all politicians, whether they preach white or black. First prominence would be held by principles *a* that are effective in influencing others. If the politician were to say, "Believe in 'solidarity' because if you do it means money for me," he would get many laughs and few votes. He therefore has to take his stand on principles that are acceptable to his prospective constituents.

If we stopped at that, it might seem that in the case before us the *a*'s were located not in the principles that suggested championing the theory to the politician, but in the principles that inspired acceptance of it by his hearers. But going a little deeper, such a distinction is seen not to hold. Oftentimes the person who would persuade others begins by persuading himself; and even if he is moved

in the beginning by thoughts of personal advantage, he comes eventually to believe that his real interest is the welfare of others. Unbelieving apostles are rare and ineffective, but ubiquitous and ubiquitously effective is the apostle who believes, and he is the more effective, the more sincere his belief. The element *a* in a theory *c* is present both in the persons who accept and in the persons who propound it, but not to be overlooked in either case are the advantages accruing from the theory *c,* to the ones and the others.

855. In analyzing a theory *c,* we must keep the objective standpoint sharply distinguished from the subjective (§ 13). The two researches are very very often confused, and so two errors, in chief, arise. In the first place, as we have so often cautioned, the logico-experimental value of a theory is not kept distinct from its persuasive force or its social utility. Then again—and this is a peculiarly modern error—the objective study of a theory is replaced by a subjective research as to how and why it was evolved or adopted by its author. This second research certainly has its importance, but it ought to supplement the other, not replace it. Whether a theorem of Euclid is true or false, and how and why he came to discover it, are two separate questions, and the one does not preclude the other. If the *Principia* of Newton had been written by an unknown writer, would that in any way affect the value of the book? So two of the aspects under which a writer's theory may be considered (§ 541) become confused: (1) his manner of thinking, his psychic state, and how he came by it; (2) what he meant in a given passage. The first aspect, which is personal, subjective to him, is mixed in with the second, which is impersonal, objective. A factor in the confusion oftentimes is regard for the writer's authority. In deference to that sentiment it is assumed *a priori* that everything he thinks and believes must necessarily be "true," and that to determine his thought is tantamount to testing the "truth" (or when the logico-experimental sciences are concerned, the accord with experience) of what he thought.

856. Long prevalent was an inclination to consider theories exclusively from the standpoint of their intrinsic merit (sometimes their

logico-experimental soundness), which, much more often, was determined with reference to the sentiments of the critic or to certain metaphysical or theological principles. Nowadays the tendency is to consider them exclusively from the extrinsic standpoint (aspects 1 and 3, § 541), as to the manner of their genesis, that is, and the reasons for their acceptance. Both methods, if used exclusively, are equally incomplete and to that extent erroneous.

857. The second error (§ 855) is the opposite of the first. The first considered only the intrinsic merit of the theory (aspect 2, § 541); the second only its extrinsic merit (aspects 1 and 3, § 541). It appears in the abuse of the historical method, which is frequent enough nowadays, especially in the social and economic sciences. In the beginning, in their eagerness to free their science of contingencies of time and place, the fathers of political economy made the mistake of viewing their findings as absolutes. It was a salutary reaction, therefore, when just such contingencies came to be taken into account, and from that point of view the historical method was a notable contribution to the progress of science. And a forward step no less important was taken when the effort to derive the forms of social institutions from dogmatic absolutes was abandoned in favour of historical studies that made it possible to learn how institutions had developed, and their bearing on other social phenomena. We are altogether within the domain of logico-experimental science when we ask not what the family ought to be, but what it has actually been. But the historical study is to be thought of as supplementing, not as replacing, our inquiry into the relations between the constitution of the family and other social phenomena. It is useful to know how, historically, theories of income have been evolved; but it is also useful to know the relations of such theories to the facts—their logico-experimental value.

858. However, this latter type of research is much more difficult than the mere writing of history; and there are plenty of people who are utterly incapable even of understanding, let alone of creating, a logico-experimental theory in political economy, yet who blithely presume to write histories of that science.

859. In the literary field historical studies often degenerate into mere collections of anecdotes that are easy to write and agreeable to read. To find out what a writer ate and drank, how he slept, the clothes he wore, is intellectually and scientifically easier than to deal with the relations between his theories and experimental realities. And if a critic can find something to say about a writer's love-affairs, he is certain to make a very entertaining book indeed (§ 541).

860. To study the element *b* is to study the subjective element in a theory. But the subjective element may be further subdivided into two: the general causes and the special causes that account for the genesis and success of a theory. General causes would be causes operative over fairly extensive periods of time and affecting considerable numbers of individuals. Special causes operate in an essentially contingent manner. If a theory comes into vogue because it serves the interests of a social class it has, in that fact, a general cause. If a writer invents a theory because he is paid to do so or because he wants to spite a rival, the cause is special.[1]

861. Things that exert powerful effects upon the social order give rise to theories, and we shall find them, therefore, in the course of our quest for *a*'s. In addition to such *a*'s there are, as we have just seen, appetites and interests. Taking them all together we have the sum of the things that operate to any appreciable extent towards determining the social order (§ 851), bearing in mind of course that the social order reacts upon them, so that we are all along dealing not with a relationship of cause and effect, but with an interrelation or a relationship of interdependence. If we assume, as in fact seems probable, that animals have no theories, they cannot have an element *a* of any kind and perhaps not even interests—all that is left in their case is instincts. Uncivilized peoples, however close to animals they may seem to stand, do have theories of one sort or another, and an element *a* has to be considered in dealing with them. And beyond

860 [1] In our study of *b* theories that is to follow (Volume III) we are to deal strictly with general causes. The study of special causes is of minor importance and can come later.

a doubt they have instincts and interests. Civilized peoples have theories for very very many of their instincts and interests. An element *a* figures through virtually the whole range of their social life.

862. In this volume we are to go looking for the element *a*. In many cases already (*e.g.*, §§ 186 f., 514, 740) we have distinguished *a* elements and *b* elements that we found combined and confused in some single phenomenon, *c*. That was in itself a start towards finding a norm for making such analyses. Suppose we get a still clearer view of the method from an example or two and then proceed with our systematic study.

863. *Example I.* Christians have the custom of baptism. If one knew the Christian procedure only one would not know whether and how it could be analyzed (§§ 186, 740). Moreover, we have an explanation of it: We are told that the rite of baptism is celebrated in order to remove original sin. That still is not enough. If we had no other facts of the same class to go by, we should find it difficult to isolate the elements in the complex phenomenon of baptism. But we do have other facts of that type. The pagans too had lustral water, and they used it for purposes of purification. If we stopped at that, we might associate the use of water with the fact of purification. But other cases of baptism show that the use of water is not a constant element. Blood may be used for purification, and other substances as well. Nor is that all; there are numbers of rites that effect the same result. In cases where taboos have been violated (§ 1252), certain rites remove the pollution that a person has incurred in one set of circumstances or another. So the circle of similar facts widens, and in the great variety of devices and in the many explanations that are given for their use the thing which remains constant is the feeling, the sentiment, that the integrity of an individual which has been altered by certain causes, real or imaginary, can be restored by certain rites. The given case, therefore, is made up of that constant element, *a,* and a variable element, *b,* the latter comprising the means that are used for restoring the individual's integrity and the reasonings by which the efficacy of the means is presumably explained. The human being has a vague feeling that

water somehow cleanses moral as well as material pollutions. However, he does not, as a rule, justify his conduct in that manner. The explanation would be far too simple. So he goes looking for something more complicated, more pretentious, and readily finds what he is looking for.

864. The nucleus *a,* now that we have found it, is seen to be made up of a number of elements: first of all an instinct for combinations; people want "to do something about it"—they want to combine certain things with certain acts. It is a curious fact, also, that the ties so imagined persist in time. It would be easy enough to try some new combination every day. Instead there is one combination, fantastic though it be, that tends to prevail and sometimes does prevail over all competitors. Discernible, finally, is an instinct which inclines people to believe that certain combinations are suited to attaining certain objectives.[1]

865. *Example II.* We have seen many cases (§§ 186 f.) where people believed that they could raise or avert tempests. If we knew only one such case, we could make little or nothing of it. However, we know many cases and can identify a constant nucleus in them. Ignoring, for the moment, the element in the nucleus that relates, as in the case of baptism, to the persistence of certain combinations and the faith in their efficacy, we find a constant element, *a,* corresponding to the feeling, the sentiment, that a divinity exists and that, by a variable means, *b,* he (or "it") may be made to interfere and influence the weather. And then, right away, there is another sort of belief, the belief that it is possible to produce the desired effect by certain rites or practices, which mean nothing in themselves —the practice, for instance, of tearing a white cock asunder and carrying the two halves around a field to protect it from drought (§ 189). So the circle widens, and another constant *a* appears: an

864 [1] As for "causes" or "origins," we might guess that actually effective combinations, such as striking a flint to get a fire, may have led people to believe in the efficiency of imaginary combinations. But we need not, for the present, concern ourselves with that explanation or any other. We can rest content with establishing the fact, and stop at that. In some other connexion we might try to go further and explain the fact by other facts, then the latter by others still, and so on.

instinct for combinations, whereby things and acts designed for producing given effects are brought together haphazard.

866. *Example III.* Catholics believe that Friday is a day of evil omen as—so it is averred—the day of the Passion. If we knew just that, and nothing else of the kind, it would be difficult to determine which of the two facts, the evil omen or the Passion, was the main, and which the secondary, fact. But we do have other facts of the kind, many of them. The Romans had their "black" or "vicious" days (*dies atri* or *vitiosi*), which were days of evil omen—for instance, the eighteenth of July, the anniversary of their defeat by the Gauls at Allia, A.U.C. 365. That is one kind of *a*—the feeling that the day which is associated with some catastrophe is a day of evil omen. But there are other facts. Both the Romans and the Greeks had days of evil omen and days of good omen without there being any special causes in the nature of public successes or disasters. Hence there has to be a more comprehensive class of *a*'s, which includes the *a* just mentioned and expresses an impulse to combine days (and other things too) with good or evil omens (§§ 908 f.).

867. These examples give us an inkling as to how a composite situation, *c*, may be broken up into *a* elements and *b* elements.[1]

868. Before going any farther it might perhaps be advisable to give word-names to the things we have been calling *a*, *b*, and *c*. To designate them by mere letters of the alphabet in a measure embarrasses our discussion and makes it harder to follow. For that reason, and for no other (§ 119), suppose we call the things *a, residues*, the things *b, derivations*, and the things *c, derivatives*. But we must always and at all times remember that nothing, absolutely nothing, is to be inferred from the proper meanings of those words or their etymologies, that they mean respectively the things *a*, *b*, and *c* and nothing else.[1]

867 [1] We shall perform many other similar analyses in the course of this chapter.

868 [1] [Pareto makes no very extensive use of the term "derivative," probably because its functions are filled just as well by the term "theory," or better, "non-logico-experimental theory." Etymologically, a "residue" would be "what is left" (the constant element) when the variable elements have been eliminated from an action or a reasoning by a comparative analysis. It is always reducible to the synonymous phrase: "principle underlying a non-logical action or reasoning."—A. L.]

869. As we have already seen, the residues *a* constitute a multifarious mass of facts, which have to be classified according to the mutual analogies they present. In that way we get "classes," "genera," and "species." And so for the derivations *B*.[1]

870. Residues correspond to certain instincts in human beings, and for that reason they are usually wanting in definiteness, in exact delimitation. That trait, indeed, nearly always serves to distinguish them from scientific facts or principles *A*, which otherwise bear some resemblance to them. Many times *A*'s have come out of *a*'s as a result of making the *a*'s more exact. The term "warm" is indefinite. Using it, it has been possible to say that well-water is "warm" in winter and "cold" in summer. But as used by physicists the term "warm" corresponds to certain degrees of heat as registered by a thermometer; it is definite. That made it evident that the water in wells is not in that sense warmer in winter than in summer, for a thermometer lowered into a well registers about the same temperature in winter as in summer, or if anything a lower one.

871. Curious the number of different meanings the term "warm" has in Macrobius, *Saturnalia*, VII, 6-8, all of them showing as their residue the sentiments that the term "warm" awakens in the minds now of this, now of that, individual (§ 506). The doctors say that wine is warm; but a character in the *Saturnalia* disagrees, finding wine by nature cold. A woman's body, says another, contains a large amount of cold. No, answers a companion, the female body is naturally warmer than the male—it is so warm, in fact, that when it was the custom to dispose of dead bodies by cremation, a female corpse was commonly burned with each ten males so that the latter might more quickly be consumed. Women have so much heat in their bodies that they are able to wear light clothing in winter. Heat, moreover, is the principle of conception. All that is disputed by another, except as regards conception, the cause of which seems really to be heat. Why is it that in a very hot country wine has the property of cold instead of heat? The reason is that when the air

869 [1] [The classification of "derivatives" having already been given under "theories" in Volume I, §§ 523, 525, 526 f., 574 f.—A. L.]

is hot it drives the cold into the ground. The air is always hot in Egypt, so the cold permeates the soil and reaches the vine-roots, imparting its own properties to the wine. And we are told why a fan cools.[1]

872. That is the type of the metaphysical reasoning, whether ancient or modern. The premises contain terms altogether devoid of

871 [1] Says Macrobius, *loc. cit.:* "I have heard doctors say all the same thing, that wine should be reckoned among the warm substances; and only just the other day, in a discussion on the causes of drunkenness, Eustathius was preaching the warmth of wine. [The reasoning is clear: a drunken man feels hot, therefore wine is hot.] But pondering frequently on the matter myself, I have come to the conclusion that wine by nature stands closer to cold than to warmth." Heat, however, is not substantial to ("inborn in") wine but an incidental attribute (*accidens*): *"Dabo aliud indicium accidentis magis vino quam ingeniti caloris."* The proof alluded to is that all warm things stimulate sensuousness: ". . . *omnia calida Venerem provocant":* but not wine, for "after abundant drinking of undiluted wine *fiunt viri ad coitum pigriores."* Here then warmth would be associated with degrees of amorousness. "Is anything colder than vinegar, which is only soured wine (*quod culpatum vinum est*)?" Not only vinegar: "The fruits of trees are coldest when their juices taste most like wine, such as the ordinary apple, the pomegranate, or the quince (*cydonia, cotonia*) described by Cato." In that case, warmth would have something to do with tastes. How explain the fact [which is not a fact] that women are harder to intoxicate than men? One suggestion is the abundance of damp in the female body (so that the wine is diluted?): *"Mulier humectissimo est corpore."* Another of the disputants points out that the wine the woman drinks gets chilled inside her by her natural cold. That statement brings a sharp retort: "It is no use, Symmachus, for you to go on saying that the female is cold by nature. I can show you easily, if you will allow me, that she is hotter than the male. . . . How can you say women are cold when it is undeniable that they are full of heat, being full of blood [*i.e.,* in menstruation]? Then there is another thing. In our day, of course, it is no longer the custom to cremate the dead. But the books tell us that in the days when it was considered an honour to the dead that they should be given to the flames, if occasion arose to burn a large number of bodies all at one time, the ministers of the rites used to add one female corpse to every ten of males. With the help of that one, which was as it were inflammable by nature and therefore burned rapidly, all the others caught fire. So you see, female heat was not unknown even to the ancients." Furthermore, don't we see women going around lightly clad in cold weather, and not at all bundled up as men are, so offsetting the cold in the air by their natural warmth? The argument seems weak to another in the party: "If they stand the cold better than men, it is because of their own cold: *similibus enim similia gaudent.* They are used to cold from the fact that they have a colder nature. That is why their bodies do not mind it." Macrobius, of course, does not fail to mention the usual story about well-water: "You know yourself, Albinus, from your own experience, that water drawn from deep wells or springs steams in winter and is cold in summer."

exactness, and from the premises, as from mathematical axioms presumably trustworthy, conclusions are drawn by strict logic. They serve, after all, to probe not things but the notions that given individuals have of things.[1]

873. The Macrobius example again shows how inexact terms may readily be used to prove both the pro and the contra. Women can wear lighter clothing than men because of the heat in their bodies. No, someone objects, it is because of the cold in their bodies.

874. In general terms, it is the indefiniteness of the residues *a*, chiefly, that unsuits them to serve as premises in strict reasonings, whereas *A* propositions can be and are constantly being so used in the sciences.

875. The residues *a* must not be confused with the sentiments or instincts to which they correspond (§§ 1690 f.). The residues are the manifestations of sentiments and instincts just as the rising of the mercury in a thermometer is a manifestation of the rise in temperature. Only elliptically and for the sake of brevity do we say that residues, along with appetites, interests, etc. (§§ 851 f.) are the main factors in determining the social equilibrium, just as we say that water boils at 100° Centigrade. The completed statements would be: "The sentiments or instincts that correspond to residues, along with those corresponding to appetites, interests, etc., are the main factors in determining the social equilibrium." "Water boils when its calorific state attains the temperature of 100° as registered by a Centigrade thermometer."

876. It is only by way of analysis and for the sole purposes of study that we distinguish various residues *a1, a2, a3*. . . . What is at work in the individual is sentiments corresponding to the groups (a_1, a_2, a_3); (a_1, a_3, a_4); (a_3, a_5); and so on. These are composites, as compared with the residues *a1, a2* . . . which are simpler. We might go on and break up *a1, a2* . . . as well into simpler elements; but we must know how to stop in time, because if made too general

872 [1] Some people are willing as an extreme concession to bar that type of reasoning from the physical sciences, but insist on retaining it for the social sciences. If we keep within experimental limits, however, there is nothing to justify any such distinction.