

Science and Sentiment:
an Exposition and Criticism
of the Writings of Pareto*

This paper is a section of an Histoire des Doctrines of Primitive Mentality. It aims at showing what in Pareto's work is directly relevant to the methods and observations of Social Anthropology. It is further the chronicle of an attempt by Pareto to apply to documents about civilized peoples the same comparative analysis as was applied to documents about savages in the great classics of social anthropology, Primitive Culture, The Golden Bough, Les Fonctions Mentales, etc. When we realise that Pareto reached the same conclusions about 'civilized' behaviour as Lévy-Bruhl reached about 'savage' behaviour it will readily be granted that his writings are of concern to anthropologists and that if the rigid division of social studies into those that deal with civilized peoples and those that deal with primitive peoples is to be maintained it can only be as a temporary convenience.

In Vilfredo Pareto's vast Trattato di Sociologia Generale¹ over a million words are devoted to an analysis of feelings and ideas. The treatise is always amusing and is born of wide reading and bitter irony. But Pareto must be classed as political philosopher rather than sociologist. His were the brilliance and shallowness of the polemicist and the popularizer of scientific method. Like so many Italian students Pareto was a quarter of a century behind the rest of the scientific world so that his constant jibes and jeers at phantom enemies become tedious. It is surely unnecessary to spend two thousand pages in contraverting the opinions of philosophers, priests and politicians. Moreover, Pareto was a plagiarist, and a very foolish one. One might think that he was unaware of contemporaneous sociological literature and such may indeed have been the case. He does not mention the works of Durkheim, Freud, and Lévy-Bruhl, to cite only three savants, though they had dealt with the same problems of sentiments, rationalizations, and non-logical thought, that he was enquiring into. Even if he was ignorant of these works he certainly took many of his ideas, without due recognition, from earlier writers whom he often repaid with abuse. Of these I will mention only Bentham, Marx, Nietzsche, Le Bon, James, Sorel, Comte, and Frazer. Many authors are held up to derision because they use metaphysical terms, for Pareto throughout his prolix and ill-arranged arguments makes much ado about remaining in the scientific (logico-experimental) field. Nevertheless, he is

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1. Trattato di Sociologia Generale. 1st ed. 2 vols., Florence, 1916. A French translation under the title "Traité de Sociologie générale", was published in two volumes in Paris in 1917 and an English translation under the title of "The Mind and Society" was published in four volumes in London in 1935. I have only second-hand acquaintance with Pareto's other three important works: Cours d'économie politique professé à l'Université de Lausanne, Lausanne, 1896-7; Les systèmes socialistes. Paris. 1902-3; and Manuel d'économie politique Paris, 1909.

often as open to criticism on this score as those whom he ridicules.¹

It may be asked why we trouble to digest a book which is so bad. Pareto tried to solve a number of genuine problems and we can learn as much from his failure as from his success about the nature of the problems themselves and the terminological and methodological difficulties involved in an enquiry into them. The data he cites and his treatment of it also provide an illuminating commentary on the theories of a number of writers, especially on Lévy-Bruhl's theory of primitive mentality because both men were trying to classify types of thought and to discover their interrelations.

The treatise contains five major propositions.

1. There are sentiments ('residues') making for social stability ('group persistences') and sentiments making for social change ('instinct for combinations'). The study of these sentiments, of their persistence, distribution, and inter-relations, in individuals and groups, is the whole subject-matter of sociology.
2. Sentiments are expressed not only in behaviour but also in ideologies ('derivations'). These are of very little social importance compared with sentiments and the only point in studying them is to discover the sentiments they both express and conceal.
3. Individuals are biologically heterogeneous. In any society a few are superior ('élites') to the rest and are the natural leaders of a community.
4. The form and durability of a society depends on (a) the distribution and mobility of these superior persons in the social hierarchy, and (b) the proportion of individuals in each class who are mainly motivated by sentiments that make for stability ('rentier' type) or by sentiments that make for change ('speculator' type).
5. There are alternating periods of change and stability due to variation in the number of biologically superior persons in the classes ('circulation of élites') and to the proportion of rentier and

1. This is well noted by Dr. Franz Borkenau (Pareto, London 1936). He is easily the best critical commentator on the *Trattato*. A good critical account is Sorokin's section on Pareto in his *Contemporary Sociological Theories*. (New York and London, 1928). A useful precis and exposition is contained in G.C. Homans and C.P. Curtis, *An Introduction to Pareto's Sociology*. New York, 1934, and G.H. Bousquet's *Précis de Sociologie d'après Vilfredo Pareto* (Paris, 1925) and his *Vilfredo Pareto, Sa Vie et son Oeuvre* (Paris 1928). L.J. Henderson's *Pareto's General Sociology. A Physiologist's Interpretation* (Cambridge, U.S.A., 1935) has little merit. Some of the comments made by Arthur Livingston, editor and part translator of the English edition, *The Mind and Society*, will be found useful even though he speaks as if he were the exponent of a new religion. A fuller biography will be found in Sorokin's book and in Bousquet's biography.

speculator types in the governing class ('distribution of residues'). The first two propositions are more directly relevant to a study of primitive mentality than the others.

There are six classes of residues: (1) Instinct for combinations (2) Group-persistences (persistence of aggregates) (3) Need of expressing sentiments by external acts (activity, self-expression) (4) Residues connected with sociality (5) Integrity of the individual and his appurtenances (6) The sex residue.

Most actions that are expressions of these residues are non-logical in character and are rigidly distinguished by Pareto from logical actions which derive from and are controlled by, experience. Pareto includes thought (speech-reactions) as well as behaviour in his concept of 'actions'. Logico-experimental thought depends on facts and not the facts on it and its principles are rejected as soon as it is found that they do not square with the facts. They assert experimental uniformities. Non-logico-experimental theories are accepted *a priori* and dictate to experience. They do not depend on the facts but the facts depend on them. If they clash with experience, in which term Pareto includes both observation and experiment, arguments are evoked to re-establish the accord. Logical actions derive mainly from processes of reasoning while non-logical actions derive mainly from sentiments. Logical actions are found connected with arts, sciences, economica and in military, legal and political operations. In other social processes non-logical actions predominate.

The test between logical and non-logical actions is whether their subjective purpose accords with their objective results, i.e. whether means are adapted to ends. A logical proposition is demonstrable by observation and experiment. The sole judge of the logico-experimental value of a notion of action is modern science.

Pareto quotes Hesiod "Do not make water at the mouth of a river emptying into the sea, nor into a spring. You must avoid that. Do not lighten your bowels there, for it is not good to do so."¹ Both of these injunctions are non-logical actions. The precept not to befoul drinking water has an objective result, probably unknown to Hesiod, but no subjective purpose. The precept not to befoul rivers at their mouths has neither objective result nor subjective purpose. The precepts belong to Class II Genus 3 and Class II Genus 1 in Pareto's synoptic scheme of classification.²

GENERA AND SPECIES, HAVE THE ACTIONS LOGICAL ENDS AND PURPOSES.

Objectively?

Subjectively?

Class 1. Logical Actions.

(The objective and the subjective purpose are identical)

Yes

Yes

1. The Mind and Society, p.79.

2. Idem, p.78.

Class 2. Non-Logical Actions.

(The objective end differs from the subjective Purpose).

| | | |
|---------|-----|-----|
| Genus 1 | No | No |
| Genus 2 | No | Yes |
| Genus 3 | Yes | No |
| Genus 4 | Yes | Yes |

SPECIES OF THE GENERA 3 AND 4

3a, 4a, The objective end would be accepted by the subject if he knew it.

3b, 4b, The objective end would be rejected by the subject if he knew it.

"The ends and purposes in question are immediate ends and purposes. We choose to disregard the indirect. The objective end is a real one, located within the field of observation and experience, and not an imaginary end, located outside that field. An imaginary end may, on the other hand, constitute a subjective purpose¹".

If there is no real end then an action or proposition cannot very well be judged by reference to scientific values because it lies outside the logico-experimental field where alone science can operate, e.g. "When St. Thomas (Aquinas) asserts that angel speaks to angel, he sets up a relation between things about which the person keeping strictly to experience can say nothing. The case is the same when the argument is elaborated logically and one or more inferences are drawn. St. Thomas is not content with his mere assertion; he is eager to prove it, and says: 'Since one angel can express to another angel the concept in his mind, and since the person who has a concept in his mind can express it to another at will, it follows that one angel may speak to another'. Experimental science can find no fault with the argument. It lies altogether outside its province²".

Pareto is aware of the fact that from the standpoint of formal logic the validity of premises is irrelevant, all that is required being sound reasoning from the premises. However, he chooses to speak of thought and action as logical when they are in accord with reality and are adapted to the end at which they aim and as non-logical when they are not, from the point of view of science, in such accord nor so adapted.

"Every social phenomenon may be considered under two aspects: as it is in reality, and as it presents itself to the mind of this or that human being. The first aspect we shall call objective, the second subjective. Such a division is necessary for we cannot put

1. Idem, p. 78.

2. Idem, p. 289.

in one same class the operations performed by a chemist in his laboratory and the operations performed by a person practising magic; the conduct of Greek sailors in plying their oars to drive their ship over the water and the sacrifices they offered to Poseidon to make sure of a safe and rapid voyage. In Rome the Laws of the XII Tables punished anyone casting a spell on a harvest. We choose to distinguish such an act from the act of burning a field of grain.

"We must not be misled by the names we give to the two classes. In reality both are subjective, for all human knowledge is subjective. They are to be distinguished not so much by any difference in nature as in view of the greater or lesser fund of factual knowledge that we ourselves have. We know, or think we know, that sacrifices to Poseidon have no effect whatsoever upon a voyage. We therefore distinguish them from other acts which (to our best knowledge, at least) are capable of having such an effect. If at some future time we were to discover that we have been mistaken, that sacrifices to Poseidon are very influential in securing a favourable voyage, we should have to reclassify them with actions capable of such influence. All that of course is pleonastic. It amounts to saying that when a person makes a classification, he does so according to the knowledge he has. One cannot imagine how things could be otherwise.

"There are actions that are means appropriate to ends and which logically link means with ends. There are other actions in which those traits are missing. The two sorts of conduct are very different according as they are considered under their objective or their subjective aspect. From the subjective point of view nearly all human actions belong to the logical class. In the eyes of the Greek mariners sacrifices to Poseidon and rowing with oars were equally logical means of navigation. To avoid verboriousities which could only prove annoying, we had better give names to these types of conduct. Suppose we apply the term logical actions to actions that logically conjoin means to ends not only from the standpoint of the subject performing them, but from the standpoint of other persons who have a more extensive knowledge - in other words, to actions that are logical both subjectively and objectively in the sense just explained. Other actions we shall call non-logical (by no means the same as 'illogical')¹.

Besides asking (1) whether a belief is scientifically valid ('objective aspect') we may also ask (2) why do certain individuals assert the belief and others accept it ('subjective aspect') and (3) what advantage or disadvantage has the belief for the person who states it, for the person who accepts it, and for society as a whole ('aspect of utility'.) Like many other writers (Mill, James, Vaihinger, Sorel, etc.), Pareto emphasizes that an objectively valid belief may not be socially useful or have utility for the individual who holds it. A doctrine which is absurd from the logico-experimental standpoint may be socially beneficial and a scientifically established doctrine may be detrimental to society.

1. Idem, pp. 76-77.

Indeed Pareto states it as his aim to demonstrate "experimentally the individual and social utility of non-logical conduct¹".

How does non-logical behaviour gain acceptance among people capable of logical behaviour? Why do people believe in foolish doctrines? Tylor and Frazer say it is because they reason erroneously from correct observations. Lévy-Bruhl says it is because they passively accept collective patterns of thought in the society into which they are born. According to Pareto the answer is found in their psychic states expressed in residues, the six classes of which have been enumerated. As Pareto does not pay great attention to the last four classes of residues we will transcribe the subdivisions of the first two classes only.

CLASS I.

INSTINCT FOR COMBINATIONS.

- 1 a. Generic combinations.
- 1 b. Combinations of similars or opposites.
 - 1 b (1) Generic likeness or oppositeness.
 - 1 b (2) Unusual things and exceptional occurrences.
 - 1 b (3) Objects and occurrences inspiring awe or terror.
 - 1 b (4) Felicitous state associated with good things; infelicitous state, with bad.
 - 1 b (5) Assimilation: physical consumption of substances to get effects of associable, and more rarely of opposite, character.
- 1 c Mysterious workings of certain things; mysterious effects of certain acts.
 - 1 c (1) Mysterious operations in general.
 - 1 c (2) Mysterious linkings of names and things.
- 1 d Need for combining residues.
- 1 e Need for logical developments.
- 1 f Faith in the efficacy of combinations.

CLASS II.

GROUP - PERSISTENCES (PERSISTENCE OF AGGREGATES)

- 11 a Persistence of relations between a person and other persons and places.
 - 11 a (1) Relationships of family and kindred groups.
 - 11 a (2) Relations with places.

1. Idem, p. 35. See also Pareto's Le mythe vertuiste et la littérature immorale, Paris, 1911.

- 11 a (3) Relationships of social class.
- 11 b Persistence of relations between the living and the dead.
- 11 c Persistence of relations between a dead person and the things that belonged to him in life.
- 11 d Persistence of abstractions.
- 11 e Persistence of uniformities.
- 11 f Sentiments transformed into objective realities.
- 11 g Personifications.
- 11 h Need of new abstractions.¹

This classification will strike the reader as being a number of arbitrary, haphazard, categories, but it is only fair to an author to try to discover the meaning behind his words so we will give one illustration of each sub-division of Class 11 and seek in these for an interpretation of 'residues'.

1 a.

Generic Combinations. Example: Pliny gives as remedies for epilepsy 'bears' testicles, wild boars' testicles, wild boars' urine (which is more effective when allowed to evaporate in the animals' bladder); hog's testicles dried, triturated, and beaten in sow's milk; hares' lungs taken with frankincense and white wine². (This residue comprises those magical associations of which Tylor says that they either never had rational sense or if they once had rational sense it has been forgotten, i.e. we can perceive no ideal link between the diseases and the drugs intended to cure them).

1 (b) (1)

Combinations of similars or opposites; Generic likeness or oppositeness. These are the principles of *similia similibus curantur* and *contraria contrariis*. Example: The witch in Theocritus says "Delphis (her lover) has tormented me. A laurel-branch I burn upon Delphis. Even as this crackles aloud when it is kindled, and burns in a flash so that not even its ashes do we see, so may the flesh of Delphis be consumed by the fire.....Even as I melt the wax with the help of a God, so may Delphis the Myndian be likewise melted with love; and as I turn this rhomb of bronze, so may he (Delphis) be turned by Aphrodite towards my threshold³".

(This residue comprises associations of ideas in magic of which Tylor wrote and which are analysed at length by Frazer and classed by him as ('Homoeopathic magic').

1. *Idem*, pp. 516-517.

2. *Idem*, p. 522.

3. *Idem*, p. 533.

1 b (2).

Unusual things and exceptional occurrences. Example: Suetonicus records that, "Once upon a time a thunderbolt fell on the walls of Velitrae (Vellitri), and that incident was taken as a presage that a citizen of that city was to hold supreme power. Strong in that faith the Velitrians made war on the Romans, but with little success. 'Not till years later did it become manifest that the presage had foretold the advent of Augustus,' who came of a family of Velitrae¹". (This residue includes omens and portents).

1 b (3).

Objects and occurrences inspiring awe and terror. Example: "This residue appears almost always by itself in certain situations of which the following is typical. Speaking of the Cataline affair, Sallust relates, *Bellum Catilinae*, XXII: 'There were those at the time who said that after Catiline had finished his address he pressed his comrades in crime to take an oath, and passed around bowls of human blood mixed with wine, whereof after they all had tasted, with imprecations upon traitors, as is the custom in solemn sacrifices, he made known his design to them, saying that he had done as he had to the end that each having such a great crime to the charge of the other, they would be the less likely to betray one another. Some hold that these and many other stories were invented by certain individuals who thought to mitigate the unpopularity that later arose against Cicero by stressing the enormity of the crime of the men who had been punished'.

"Whether this story be true or a fabrication, the fact of the association of two terrible things remains: a drinking of human blood and a conspiracy to destroy the Roman Republic²".

1 b (4).

Felicitous state associated with good things; infelicitous state, with bad. Example: "The ancient Romans credited the gods with the successes of their republic. Modern peoples attribute their economic betterment to corrupt, ignorant, altogether contemptible parliaments. Under the old monarchy in France the king partook of the divine. When something bad occurred, people said: 'if the King only knew'. Now the republic and universal suffrage are the divinities, 'Universal suffrage, the master of us all'. Such the slogan of our Deputies and Senators who are elected by the votes of people who believe in the dogma, "Ni Dieu, Ni Maître!"³

1 b (5).

Assimilation. Physical consumption of substances to get effects of associable, and more rarely of opposite, character. Example: "In view of and considering the strength, courage, and fleetness of foot of Achilles, some were pleased to assume that in his childhood he had been fed on marrow from the bones of lions and others specified bear's marrow and the viscera of lions and of wild boars⁴". (This residue

1. *Idem*, p. 541.

2. *Idem*, pp. 552-553.

3. *Idem*, p. 558.

4. *Idem*, p. 561.

corresponds to Frazer's category of "Contagious magic").

1 c.

Mysterious workings of certain things: mysterious effects of certain acts. This residue figures in amulets, oaths, ordeals, and taboos.

1 c. (1).

Mysterious operations in general. Example: "According to Tertullian 'Among the heathen there is a dreadful thing called the *fascinum*', 'the spell', which comes as the unfortunate result of excessive praise and glory. This we sometimes believe to be the work of the Devil, because he hates whatever is good, sometimes the work of God, for of Him comes judgement on pride in an exalting of the lowly and a humbling of the haughty!".

1 c. (2).

Mysterious linkings of names and things. Example: St. Augustine says "In a perfect number of days, to wit, in six, did God finish his handiwork²".

1 d.

Need for combining residues. Example: "The human being is loth to dis sever faith from experience; he wants a completed whole free from discordant notes. For long centuries Christians believed that their scriptures contained nothing at variance with historical or scientific experiences. Some of them have now abandoned that opinion as regards the natural sciences but cling to it as regards history. Others are willing to drop the Bible as science and history, but insist on keeping at least its morality. Still others will have a much-desired accord, if not literally, at least allegorically, by dint of ingenious interpretations. The Moslems are convinced that all mankind can know is contained in the Koran. The authority of Homer was sovereign for the ancient Greeks. For certain Socialists the authority of Marx is, or at least was, just as supreme. No end of felicitous sentiments are harmonised in a melodious whole in the Holy Progress and the Holy Democracy of modern peoples³".

1 e.

Need for logical developments. "The demand for logic is satisfied by pseudo-logic as well as by rigorous logic. At bottom what people want is to think-it matters little whether the thinking be sound or fallacious. ...We should not forget that if this insistence on having causes at all costs, be they real or imaginary, has been responsible for many imaginary causes, it has also led

1. Idem, pp. 572-573.

2. Idem, p. 586.

3. Idem, p. 588-589.

to the discovery of real ones. As regards residues, experimental science, theology, metaphysics, fatuous speculations as to the origins and the purposes of things, have a common point of departure: a resolve, namely, not to stop with the last known cause of the known fact, but to go beyond it, argue from it, find or imagine something beyond that limit. Savage peoples have no use for the metaphysical speculations of civilized countries, but they are also strangers to civilized scientific activity; and if one were to assert that but for theology, and metaphysics, experimental science would not even exist, one could not easily be confuted. Those three kinds of activity are probably manifestations of one same psychic state, on the extinction of which they would vanish simultaneously¹". Example: None is specially cited but the entire collection of derivations afterwards enumerated by Pareto exemplify this residue.

1 f.

Faith in the efficacy of combinations. Example: "Speaking in general, the ignorant man is guided by faith in the efficacy of combinations, a faith which is kept alive by the fact that many combinations are really effective, but which none the less arises spontaneously within him, as may be seen in the child that amuses itself by trying the strangest combinations. The ignorant person distinguishes little if at all between effective and ineffective combinations. He bets on lottery numbers according to his dreams just as confidently as he goes to the railroad station at the time designated in the time-table. He thinks it quite as natural to consult the faith-curer or the quack as to consult the most expert physician. Cato the Elder hands out magical remedies and directions for farming with the same assurance²".

Pareto does not consider that logical actions are to be distinguished from non-logical actions on psychological grounds. "If a person is convinced that to be sure of a good voyage he must sacrifice to Poseidon and sail in a ship that does not leak, he will perform the sacrifice and caulk his seams in exactly the same spirit³".

It is not entirely clear what Pareto means by residues. Evidently he knew very little psychology and preferred to be as vague as possible at this end of his study. His critics and disciples do not enlighten us about residues. Borkenau says that the concept has the qualities of being unchangeable, meaningless, and unintelligible.⁴ Sorokin says that they are relatively constant "drives" which are neither instincts nor sentiments. He compares them, among other things, to 'dispositions' and 'complexes'⁵. Bousquet says that they are certain tendencies, certain sentiments⁶.

1. Idem. pp. 550-591.

2. Idem. pp. 593-594.

3. Idem. p. 210.

4. Borkenau, op. cit., p. 48.

5. Sorokin, op. cit., p. 48.

6. Bousquet, op. cit., p. 135.

I interpret his writings like Homans and Curtis who describe residues as the common element in "certain utterances and writings", as an abstraction from "the observed sayings of men". Nevertheless, in their exposition they prefer to apply the term also to certain hypothetical sentiments. They say "Strictly, they (residues) are not parts of a conceptual scheme, but uniformities abstracted from the observed sayings of men. Common-sense, however, has set up a conceptual scheme which in our habits of thought is so closely joined with observations that it is inconvenient to separate them. We all observe that we say and do certain things, but we all feel as well that we have sentiments connected with these sayings and doings. Therefore the word 'residues' will be used to mean 'sentiments'. For it is not worth while to sacrifice the directness of the language of common-sense for the sake of a consistent rigour¹".

Pareto himself often speaks of 'sentiment' instead of 'residue'. In an address at Lausanne he said, "L'activité humaine a deux branches principales: celle du sentiment et celle des recherches expérimentales. On ne saurait exagérer l'importance de la première. C'est le sentiment qui pousse à l'action, qui donne la vie aux règles de la morale, au dévouement, aux religions, sous toutes leurs formes si complexes et si variées. C'est par l'aspiration à l'idéal que subsistent et progressent les sociétés humaines. Mais la seconde branche est aussi essentielle pour ces sociétés; elle fournit la matière que met en oeuvre la première; nous lui devons les connaissances qui rendent efficaces l'action et d'utiles modifications du sentiment, grâce auxquelles il s'adapte peu à peu très lentement, il est vrai, aux conditions de l'ambiant.

Toutes les sciences, les naturelles comme les sociales, ont eu, à leur origine, un mélange de sentiments et d'expériences. Il a fallu des siècles pour opérer une séparation de ces éléments, laquelle, à notre époque, est presque entièrement accomplie pour les sciences naturelles et qui a commencé et se poursuit pour les sciences sociales²".

But Pareto uses the word 'sentiment' only as a useful concept and not as something which can be observed. Though he often speaks of sentiments and residues as though they were interchangeable terms in his scheme they strictly refer to quite distinct things. We observe that men act in certain ways in certain situations and we find that there is a common factor in their behaviour. This constant element in the behaviour-patterns is the residue and is the important variable in a complex of real behaviour. What is inconstant are the derivations which are the unimportant variable in the complex. The residues and the derivations are therefore observed facts and the sentiment is a conceptualization of the facts, i.e. is the facts translated into a system of ideas.

We can best understand Pareto's scheme by quoting examples. We see that certain insects (*Eumenes* and *Cergas*) prepare a food supply for their worms and that all members of these species prepare it in very much the same way. What is variable in their behaviour is a derivation.³ What is common to all insects of the species

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1. Homans and Curtis, *An Introduction to Pareto. His Sociology*. pp.87-89.
 2. *Journal d'Economie Politique*, 1917, pages 426 seq. (Quoted as appendix to Homans and Curtis, *An Introduction to Pareto. His Sociology*.)
 3. To conform to Pareto's usage one should say it is analogous to derivations because he does not consider derivations to occur in animal behaviour.

is a residue; i.e. what remains after all variations have been abstracted (it is the purest type of non-logical action and belongs to Genus 3 in Pareto's synoptic scheme). We conceptualize this common behaviour and call it instinct. We do this for our own convenience. Similarly it is convenient to speak of an instinct for nestbuilding in birds since it obstructs thought if we have always to describe the whole range of like behaviour for which the word 'instinct' stands in a conceptual scheme. Those who do not like the word may substitute for it the behaviour. When we speak of instinct we make no statement about the psychophysiological action that may accompany, or even cause, behaviour, but we speak of observed behaviour alone.

The word 'sentiment' is used in the same manner. A residue is what is constant in a range of behaviour, i.e. it is a constant uniformity. An observer notes that in England people react in certain situations to certain symbols such as 'King' and 'Union Jack'. He abstracts from their behaviour what is constant in individuals and ceremonies. This is the residue. It is a pure abstraction because it will not be observed except in combination with the variable elements in real behaviour but it is observable behaviour none the less. For sake of convenience we refer to the residue as the 'sentiment of patriotism' and we say that the behaviour both expresses and strengthens the sentiment. This hypothetical entity denotes a psychological state and therefore may not refer to anything observable and describable but it is useful because it enables us to relate a great number of facts to one another in the same way as the notion of gravitation enabled people to relate falling apples, the motion of the planets, and many other observations, to one another.

Pareto finds in his survey of literature that in many countries and times when a storm arises at sea people do something to quell it. They may make magic, or pray to the Gods, or do something else. Exactly what they do is, from his point of view, irrelevant. That they feel something can be done to quiet the storm and that they do this something, are the important facts. Men have always feasted but many different reasons are given for their banquets. "Banquets in honour of the dead become banquets in honour of the Gods, and then again banquets in honour of saints; and then finally they go back and become merely commemorative banquets again. Forms can be changed, but it is much more difficult to suppress the banquets. Briefly (and therefore not very exactly) one might say that a religious custom or a custom of that general character offers a less resistance to change, the farther removed it stands from its residues in simple associations of ideas and acts, and the larger proportion it contains of theological, metaphysical, or logical concepts¹" The banquet is the residue; the reason for holding it is the derivation. But it is no special kind of banquet but simply the act of banqueting at all times and in all places that is Pareto's residue.

1. Pareto, *The Mind and Society*, p. 607.

I will give two final examples to illustrate Pareto's use of 'residue' and 'sentiment'.

CONCEPTUAL PLANE

Sentiment

A

OBSERVATIONAL PLANE.

Residue Real Behaviour.

abc.

ade.

afg.

ahi.

Let us take a hypothetical African people who in drought perform a ceremony to make rain. Their rites are abc. Christian missionaries convert them and now when they want to make rain they go into a church and the minister prays for rain. These Christian rites = ade. The people, however, become converted to Islam and adopt new rites to obtain rain, namely afg. Later they relapse into paganism again but having forgotten their ancient rites of rain-making borrow those of a neighbouring people, namely ahi. When we compare all these rites we find they have a common element, a, in that in the situation of drought a ceremony is held to obtain rain, and there may be common elements in the rites themselves e.g. prayers to a Divinity and so forth. However, in real situations these common elements are always found with the other and variable elements. The residue is an abstraction from these real situations. Those who find that it helps them to understand the facts better by saying that this African people have a social sentiment, A, in regard to rain and account for the constant behaviour they observe by attributing it to the sentiment are in no danger so long as they realise what they are doing, i.e. that they are merely conceptualizing the residue.

We need not have taken an hypothetical African tribe. Let us take abc = Christianity, ade = Islam, afg = Hinduism, ahi = Christian science. The theologies and rites of these religions are very different. Let us consider only one element in the complex, namely, moral conduct. All these religions condemn adultery, theft, murder, incest, etc., and the peoples in those societies where the religions hold sway express horror at the breach of the moral code; the great majority observing it and punishing those who break it. Conduct is constant and uniform. Only the reasons given for the conduct and the sanctions which are associated with it differ in many particulars. This is an observable fact. Those who like to conceptualize it by referring to religious sentiments are at liberty to do so.

From what has been said about 'residues' the meaning Pareto attaches to 'derivations' will be apparent. Strictly derivations are relatively inconstant elements in a range of behaviour. In the above diagram they are b, c, d, e, f, g, h, i. But Pareto generally uses the term to denote what are often called ideologies or speech-reactions, i.e. the reasons men give for doing things. He thus contrasts the sentiment and the action which expresses it with the explanation men advance to justify their action. He recognizes, however, that sentiments are expressed in both action and ideologies

because men not only have a need for action but also a need for intellectualizing their actions, though whether by sound or absurd arguments matters little. What is done and said need have no direct relation to a sentiment but they satisfy needs for action and intellectual justification.

Pareto saw the sentiment, the behaviour, and the ideology as existing in a functional relationship. The behaviour and the ideology are derivatives of the sentiment and of these two the relatively constant behaviour is the more important variable.

Above all Pareto objected, like Durkheim, Lévy-Bruhl, and many other writers, to theories that interpret behaviour by reference to the reasons that men give to explain it. He severely criticises Spencer and Tylor for suggesting that primitive peoples argued logically from observation of phenomena that souls and ghosts must exist and that they instituted a cult of the dead in consequence of their logical conclusions. Likewise he criticised Fustel de Coulanges for saying that from the religion of the hearth human beings learned to appropriate the soil and on their religion based their title to the soil. Pareto remarks that religion and ownership of land are likely to have developed side by side. Coulanges further said that the family, which by religion and duty remained grouped around its altar became fixed to the soil like the altar itself. Pareto comments that what obviously happened was that certain people came to live in separate families fixed to the soil and one of the manifestations of this mode of life was a certain kind of religion which in its turn reacted on the mode of life and contributed towards keeping the families separate and fixed to the soil. The relationship is not a simple cause-effect relationship but one of reciprocal interdependence. Family life, cult, and system of beliefs, interact on one another and strengthen one another.

Nevertheless, although ideologies may react on sentiments it is the sentiments that are basic and durable. A particular ideology may change but the sentiment that gave rise to it will remain and an entirely different ideology may take the place of the previous one. In fact the same residue may give rise to apposed derivations, e.g. the sex residue may be expressed in a violent hatred of all sex manifestations. Therefore the derivations are always dependent on the residue and not it on them. It is a one-sided functional relationship.

Hospitality is universal so that when the Greeks said that a man must be hospitable to strangers because "Strangers and beggars come from Zeus" we can leave Zeus out of consideration. The Greeks "were merely voicing their inclination to be hospitable to visitors, and Zeus was dragged in to give a logical colouring to the custom, by implying that the hospitality was offered either in reverence for Zeus, or to avoid the punishment that Zeus held in store for violators of the precept"¹. Other peoples give different reasons for hospitality but all insist on the hospitality. The giving of hospitality is the residue; the reason for giving it is the derivation. The feelings and the behaviour to which they give rise are

1. *Op. cit.* p. 215.

the important things. The reasons for the behaviour do not matter. Almost any reason will serve the purpose equally well, and, therefore even if a man can be convinced that his reasons for doing something he is very desirous of doing are erroneous he is unlikely to cease his action but will rather look for a new set of reasons to justify his conduct. Hence Pareto, unexpectedly, quotes Herbert Spencer with approval when he says that not ideas but feelings, to which ideas serve only as a guide, govern the world.

"Logically", Pareto wrote, "one ought first to believe in a given religion and then in the efficacy of its rites, the efficacy logically, being the consequence of the belief. Logically, it is absurd to offer a prayer unless there is someone to hearken to it. But non-logical conduct is derived by a precisely reverse process. There is first an instinctive belief in the efficacy of a rite, then an 'explanation' of the belief is desired, then it is found in religion"¹.

In fact there are certain elementary types of behaviour, found in all societies, in similar situations, and directed towards similar objects. These, the residues, are relatively constant since they spring from strong sentiments. The exact manner in which the sentiments are expressed and the ideologies that accompany their expression are variable. Men in each society express them in the particular idiom of their culture. Logical interpretations especially "assume the forms that are most generally prevalent in the ages in which they are evolved. These are comparable to the styles of costume worn by people in the periods corresponding"². If we want to understand human beings therefore we must always get behind their ideas and study their behaviour and once we have understood that sentiments control behaviour it is not difficult for us to understand the actions of men in remote times because residues change little through centuries, even milleniums. How could we still enjoy the poems of Homer and the elegies, tragedies, and comedies of the Greeks and Latins if we did not find them expressing sentiments that, in great part at least, we share?³ Pareto's conclusion may be summarized in the dictum 'Human nature does not change', or, in his own words "Derivations vary, the residue endures"⁴.

I will now note some comments on, and criticisms of, Pareto's theories about residues and derivations. In harmony with the diffuse and disjointed structure of the book I will not attempt general criticism but will isolate a number of points for remark. I select particularly those problems that are relevant to a study of primitive mentality.

(1) Pareto like Tylor, Frazer, and Lévy-Bruhl, employed a faulty comparative method. He took beliefs from here, there and everywhere, and fitted them into his theoretical mosaic. What I have said elsewhere⁵ in criticism of this way of writing applies also to Pareto's treatise.

1. *Op. cit.* p. 569.

2. *Op. cit.* p. 143.

3. *Op. cit.* p. 1183.

4. *Op. cit.* p. 660.

5. "The Intellectualist Interpretation of Magic" and "Lévy-Bruhl's theory of Primitive Mentality", *Bulletin of the Faculty of Arts, Egyptian University* 1933, 1934. [Reprinted in *J.A.S.O.* Vol. 1V., No. 3, Vol. 1 No. 2.]

(2) Pareto had this advantage over contemporary anthropologists: he did not have to rely on what travellers and missionaries said about savage superstitions. By restricting his field to classical and post-classical times in European countries he was able to use what the natives themselves said about their beliefs. His main texts were Greek and Roman and mediaeval books.

(3) He had a further advantage in that he was in a sense a fieldworker. It is true that he took all his data from books and newspapers and also that he made a study of ideologies rather than behaviour. But his life was not spent in the study and the walls of a college were not the limits of his experience. In his early life he had been a practical man of affairs and had learnt by observation that there are wide differences between what men say are their aims and what they really want to do. Nevertheless, he could, as a rule, only indirectly apply his observations of human behaviour to interpret his data. Hesiod, Plato, Suetonius, and Aristotle, cannot be cross-examined and we cannot do field-work among the ancient Greeks.

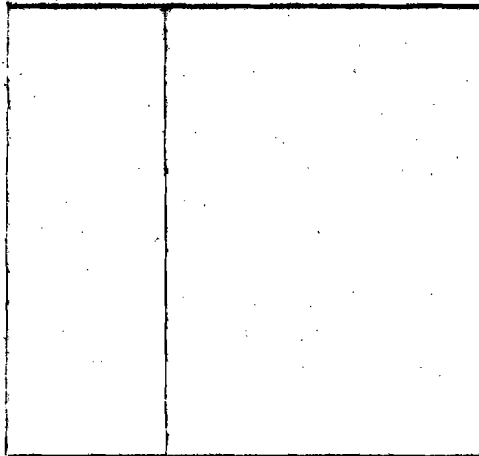
(4) I have criticized Frazer, for comparing the scientist in modern Europe with the magician and priest in savage and barbarous societies, and Lévy-Bruhl for comparing the modes of thought of an educated European in the 20th century with the beliefs of primitive peoples. Pareto does not make this mistake. He intends to study the part played by logical, and the part played by non-logical, thought and behaviour side by side, and in interaction, in the same culture. His intention was excellent. In fact, however, he does not adhere to this plan. He writes at great length about fallacious beliefs and irrational behaviour but he tells us very little about common-sense beliefs and empirical behaviour. Therefore just as Lévy-Bruhl leaves us with the impression of savages who are continuously engaged in ritual and under the dominance of mystical beliefs so Pareto gives us a picture of Europeans at all periods of their history at the mercy of sentiments expressed in a vast variety of absurd notions and actions. If Pareto for civilized peoples, and Lévy-Bruhl for savages, had given us a detailed account of their real life during an ordinary day we would be able to judge whether their non-logical behaviour is as qualitatively and quantitatively important as the writers' selective methods would lead us to suppose. Actually, I would contend, non-logical conduct plays a relatively minor part in the behaviour of either primitive or civilized men and is relatively of minor importance.

(5) Pareto's work is an amusing commentary on Lévy-Bruhl books. Lévy-Bruhl has written several volumes to prove that savages are pre-logical in contrast to Europeans who are logical. Pareto has written several volumes to prove that Europeans are non-logical. It would therefore seem that no one is mainly controlled by reason anywhere or at any epoch. The situation is yet more amusing when we remember that Lévy-Bruhl excused himself from describing the characteristics of civilized mentality on the grounds that ancient and modern savants have adequately defined them. For Pareto bases his contention that civilized thought is primarily non-logical on the writings of these same savants.¹

1. Cp. J. L. Myres "The Methods of Magic and of Science", *Folklore*, vol. 36 1925. For his magical data Prof. Myres does not find it necessary to go further than the writings of his anthropological colleagues.

(6) Indeed one of the reasons why I have chosen to analyse Pareto's treatise is to bring out the fact that a study of unscientific thought and ritual behaviour cannot be restricted to primitive societies but must be extended to civilized societies also. He allows to common-sense notions and empirical behaviour about as much place in Greek, Roman, and modern European communities as Lévy-Bruhl allows them in central African, Chinese, and North American Indian communities. He admits that perhaps people are a little more reasonable than they used to be, but so little more that it is scarcely to be observed. Our diagram to illustrate Pareto's views is therefore thus:-

Later periods of history.



Earlier periods of history.

Logico-experimental. Non-logico-experimental.

The relation of the logico-experimental field to the non-logico-experimental field is fairly constant throughout history. Also by his analysis of human behaviour and his classification of it into residual categories Pareto establishes sociological uniformities that may serve as units of comparison. If his analysis is correct it would seem disadvantageous to maintain studies of primitive societies and of civilized societies as separate disciplines as is the present scientific policy.

(7) Another reason why I devote so much space to a consideration of Pareto's writings is because he emphasizes the need for a clear distinction between logico-experimental thought and behaviour and other forms of thought and behaviour and in doing so raises questions of terminology which, had they been earlier considered, would have prevented much confusion in social anthropology. Pareto's division of thought into two categories, the logico-experimental and the non-logico-experimental is excellent and is necessary if we are going to investigate the part played by logico-experimental thought in society.

But it must be remembered, firstly, that our classification is never absolute since it is always relative to present-day knowledge, and, secondly, that it tells us nothing about the psychological and sociological qualities of the facts under investigation. It tells us only whether a proposition is valid, whether an inference from it is sound, and whether behaviour based upon it is adapted to the end towards which it is directed. It is possible that from the logico-

experimental view-point two propositions, A and B, may be placed in opposite categories whereas from the psychological or sociological view-points they may be placed in the same category. Pareto understands that facts must be classified according to the point of view of the observer and that the classification of one observer will therefore be different from the classification of another observer. Thus he points out that the logico-experimental and the non-logico-experimental actions of Greek sailors are psychologically the same.

But Pareto's terminology is not acceptable because his non-logico-experimental category does not really tell us about the validity of inferences from propositions but only about the validity of the propositions themselves. Lévy-Bruhl saw that primitive thought is coherent and that savages make valid inferences from propositions even though the propositions are not in accord with experience but are dictated by culture and are contained in beliefs that are demonstrably false from a logico-experimental standpoint. It is unfortunate, therefore, that he chose to speak of primitive notions as prelogical because we then have to talk about prelogical logic which is very inconvenient. Pareto, more clearly than Lévy-Bruhl, has stated that human thought and actions are in logical accord with propositions but when the propositions are invalid he calls them non-logical. This creates an even worse terminological muddle for we have then to speak of non-logical logic.

Lévy-Bruhl and Pareto both wanted to make the same point and both used the same cumbersome terminology. In science the validity of premises and the logical co-ordination of propositions are everything and the scientist aims always and above all to test his thought by observation and experiment and to avoid contradiction between his propositions. Outside the field of science a man does not trouble himself whether thought is based on observation and experiment and is not seriously inconvenienced by contradictions between his propositions. He aims always and above all to ensure that his notions and conduct shall be in accord with sentiments and if he can achieve that end their scientific value, and to some extent their logical value, are of little importance. A savage sees an ill-omened bird and abandons his journey to avoid misfortune. His conduct is in accord with a socially determined proposition. He does not consider whether it is experimentally sound because for him the experimental proof is contained in the proposition. A train is wrecked. Some people at once say that communists have wrecked it. That communists could not have been responsible and that it would have been entirely against their interests to have wrecked the train, are irrelevant to such people. They hate communists. A train has been wrecked. Therefore the communists are responsible.

Sentiments are superior to observation and experiment and dictate to them everywhere save in the laboratories of science. What have logico-experimental methods to do with the feelings of a lover, a patriot, a father, a devout Christian, and a communist? A lover is notoriously blind to what is evident to everyone else. What is sense to a communist is nonsense to other people. For in these realms our judgements are made to accord with sentiments and not with observations.

Feelings cannot be logical or otherwise and sentiments are outside the domain of science. But when they are expressed in words the propositions can be classed from the point of view of formal logic into logical and illogical statements, and from the point of view of science into valid and invalid statements.

Logical reasoning may be unscientific since it is based on invalid premises. It is therefore desirable to distinguish between science and logic. Science is understood in the sense given to the word by most scientific writers on the subject, e.g. Mach, Pearson, and Poincaré. Scientific notions are those which accord with objective reality both with regard to the validity of their premises and to the inferences drawn from their propositions. Unscientific notions are those which are invalid either in their premises or in the inferences drawn from them. Logical notions are those in which according to the rules of thought inferences would be true were the premises true, the truth of the premises being irrelevant. Illogical notions are those in which inferences would not be true even were the premises true, the truth of the premises again being irrelevant.

Much confusion that has arisen by use of such terms as non-logical and pre-logical will be avoided by maintaining a distinction between logical and scientific. In making pots all grit must be removed from the clay or the pots will break. A pot has broken during firing. This is probably due to grit. Let us examine the pot and see if this is the cause. That is logical and scientific thought. Sickness is due to witchcraft. A man is sick. Let us consult the oracles to discover who is the witch responsible. That is logical and unscientific thought.

(8) Pareto makes his writing unnecessarily difficult to follow by speaking of actions as well as speech as logical and non-logical. What he means is that actions can be based on scientifically valid propositions or scientifically invalid propositions. If a man shoots another through the heart it stops beating and dies. Acting on this proposition A shoots B through the heart. This is what Pareto calls a logical action. If a man makes magic against another he dies. Acting on this proposition A makes lethal magic against B. This is what Pareto calls a non-logical action. It will be more convenient to call the one an experimental, and the other a non-experimental, action since the one is from the viewpoint of observer well adapted to achieve the end aimed at whereas the other is ill-adapted.

Problems of terminology become more difficult when we leave the technological plane and begin to discuss behaviour on the moral plane. In this review, however, we may use Pareto's device of contrasting experience with sentiment, science with morals, for I attempt only to expound Pareto's scheme and not to propound a scheme of my own. Like Lévy-Bruhl he defined scientific thought and moral (mystical, non-logico-experimental) thought in the rough and showed that there is a real sociological task to perform in unravelling, and in tracing the development of, their interrelations. Like Lévy-Bruhl, he left detailed analysis to others.

(9) Pareto's reference to sentiment was dangerous. Too often we see him falling into the pit prepared for those who seek to explain behaviour in psychological terms by attributing it to sentiments, needs, dispositions, and so forth. They observe a range of behaviour with a common objective and say that there is a sentiment or instinct that produces the behaviour. They then explain the behaviour by reference to the sentiment or instinct they have hypothesized from the behaviour. Men act in a certain way towards their country's flag. It is assumed from this that there is a sentiment of patriotism and the behaviour is then explained by saying that it springs from a sentiment of patriotism.

Nevertheless in fairness to Pareto it must be admitted that he perceived a basic, perhaps the basic, problem in sociology, and realized that only inductive methods of research will solve it. If different societies are to be compared then it is essential to strip behaviour of its variable characters and to reveal its uniformities, i.e. to reduce observed behaviour to abstractions which will serve as units of comparison. And who would deny that in all societies there is a range of simple and uniform modes of behaviour, call them sentiments or residues, or participations, or merely X, for else how could we, as Pareto asks, so easily understand the speech and behaviour of savages and men of earlier times?

(10) There is a great similarity between Lévy-Bruhl's collective representations and Pareto's derivations, and between Lévy-Bruhl's mystical participations and Pareto's residues. The main theoretical difference between them is that Lévy-Bruhl regarded the facts as socially determined and thus accounted for acceptance of belief by generality, transmission, and compulsion, whereas Pareto regarded them as psychologically determined and explained them by sentiments and other somewhat mysterious psychological drives. In any society we find a large number of collective representations (derivations) organized into a system. When we analyse them by comparison and remove what is not common to all societies we find a residue of simple modes of behaviour powerfully charged with emotion, e.g. those classified by Pareto as group-persistences: relations of family and kin, relations with places, relations between the living and the dead, and so forth. These relations are what Lévy-Bruhl calls mystical participations. Any occurrence is at once, as Lévy-Bruhl puts it, interpreted in terms of the collective representations, and as Pareto puts it in terms of the derivations. The thought of men is organized not so much by the logic of science as by the logic of collective representations or the logic of sentiments, and an action or statement must accord with the representations, or sentiments, rather than with experience. It is only in the technological field that science has gained ground from sentiment in modern societies. Hence our difficulty in understanding much of primitive magic while we readily appreciate most of their other notions since they accord with sentiments we ourselves possess for "Derivations vary, the residue endures".

(11) Another cardinal problem perceived by Pareto is the relation between individual psychology and culture. Indeed the treatment of this problem is perhaps the best part of his thesis. There are in all individuals certain psychological traits and in any society there are psychological types and these traits and types will manifest themselves in culture regardless of its particular forms.

The sex instinct manifests itself in every society and if it is prohibited in one mode of expression it will manifest itself in another. A dominant and ambitious man will seek power by all means and at all costs whether he is born in China or Peru; whether he enters the army, the church, the law, or academic life; whether for the moment he expresses his ambitions in the idiom of socialism or conservatism. For individuals are not entirely conditioned by culture but only limited by it and always seek to exploit it in their own interests. Thus a moral ideology may be acknowledged by all men but often they twist it till it serves their interests even though it is contradicted in the process and one man quotes as authority for his actions what another quotes as authority for condemning them. In any situation a man will select from social doctrine what is of advantage to him and will exclude the rest, or will interpret a doctrine in the manner which suits his interests best. Christian teachings are supposed to determine human behaviour but what often happens in fact is that men control Christian dogma selecting from its doctrines what pays them and excluding the rest, or interpreting what conflicts with their actions so that it seems to support them.

(12) Finally, I will draw attention to Pareto's methodology which was sound even if his employment of it was often unsatisfactory. It may be summed up in two statements, (a) In a real situation we have to consider certain factors and neglect others if we are going to obtain scientific results. Science deals always with abstractions in this manner and allows for distortion until it can be corrected by further study of the neglected factors. Thus Pareto decided to pay no attention to environmental, historical, racial, and other, factors that condition social life but to study only the interrelations of psychological facts with one another and, to some extent, with economic changes and biological variations, (b) He tried to make a functional study of these facts by noting uniformities and interdependencies between them. He expressed contempt for people who seek to discover the origin of things both in terms of development and in terms of diffusion. Indeed one of the chief weaknesses of his book is that his exclusive interest in functional relationships of a psychological kind led him to neglect a study of cultural development and cultural variations which alone enable functional relationships to be established.

(13) There are many points in Pareto's rambling account about which criticism might be levelled against him. I have mentioned only a few and have rather sought to emphasize his contributions than his shortcomings and to remark upon those ideas which can be compared with the ideas of writers about primitive peoples and those which lead to important sociological problems. I would make it clear that I do not consider Pareto's contributions to sociology of great importance. What is valuable in his writings is commonplace in comparative sociology. None the less he is a useful subject for treatment in an history of theories of primitive mentality.

E.E. Evans-Pritchard.